

## ***6 Conclusions and Recommendations***

---



## **6.0 CONCLUSIONS AND RECOMMENDATIONS**

### **6.1 RECOMMENDED MITIGATION AND MONITORING PROGRAM**

A review of the information provided by the Project Applicant and further developed from data requests, scoping and literature research, and alternatives analysis shows that the Project would result in both short and long-term adverse impacts. The Project's potential construction impacts would be short-term and after mitigation measures are implemented most of the impacts would be less than significant. While most of the Project impacts during the operation phase are less than significant with the implementation of mitigation measures, long-term significant impacts after the incorporation of feasible mitigation measures remain in the topic areas of Public Safety, Aesthetics, and Recreation.

Table 6.1-1 presents a summary of the Project's impacts and the mitigation measures identified to avoid or reduce each impact. The impacts are classified before and after mitigation. The Table also includes the agencies responsible for monitoring each of the mitigation requirements. This summary table is the basis for the Mitigation and Monitoring Program, which will be implemented to ensure that each mitigation measures is incorporated into Project construction, operation, and maintenance activities.

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
<b>PUBLIC SAFETY</b>				
<b>FSRU</b>				
<p><b>PS-1: Potential Release of LNG due to Operational Incident or Natural Phenomena</b></p> <p>An operational incident due to human error, upsets, or equipment failures or as a result of natural phenomena (tsunami, high winds, etc.) could cause a release of LNG from process or loading equipment.</p>	Class II	<p><b>AMM PS-1a. Applicant Engineering and Project Execution Process.</b> The Applicant would undertake—regardless of any less stringent regulatory requirements—the following steps to design, build, and operate the proposed Project:</p> <ol style="list-style-type: none"> <li>1) Prior to final internal project funding, undertake a full Front End Engineering Design (FEED) exercise with a suitably qualified and experienced contractor under the management of an Applicant technical team. This would define the engineering requirements for the complete Project and identify sources for all remaining detailed information and data, to be ready for internal Project sanction and final detailed engineering.</li> <li>2) Undertake a comprehensive offshore site survey to determine bathymetry, geology, and geotechnical characteristics of the area in and immediately around the locations of each element of the Project. This would require mobilization of specialized marine vessels and crews to perform the acoustic surveying and soil coring for the shallow water horizontal directional drilling (HDD) of the pipelines crossing under the beach to the FSRU mooring in deep water. This information would provide additional information for the final detailed design of the HDD, the pipelines, cable crossings, pipeline</li> </ol>	Class III	USCG

**Table 6.1-1 Impacts and Mitigation Measures**

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<p>end manifolds, and the mooring system anchors.</p> <p>3) Fully implement the proposed Project under a self-imposed “Safety Case” regime for the detailed design of the proposed Project. This would begin with the FEED but could be completed only when the level of the facility definition is in the advanced detailed design phase. This would require a complex series of additional detailed safety checks and balances be put into place, including HAZID, hazard and operability studies (HAZOPs), quantitative risk analyses (QRA), formal safety analyses (FSA), and associated safety engineering exercises such as process plant modeling and analyses. This would be finalized during the detailed design of the FSRU safety systems, the process plant and deck layouts, and the associated systems such as piping and utilities and the control systems and procedures. Upon startup, the safety case would become a “living” tool for the facility operating team—one that would be updated and reanalyzed as needed based on operational experience—to ensure that the proposed Project meets or exceeds required standards during all phases of operation.</p> <p>4) Upon internal Project sanction/funding, ensure detailed engineering would be conducted for all components by suitably qualified and experienced contractors under the management of an Applicant technical team and in accordance with demanding</p>		

**Table 6.1-1 Impacts and Mitigation Measures**

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<p>technical requirements that would be carefully defined in contractual documents. The selected qualified engineering contractors would likely be different for the hull, the regasification topsides, the mooring, pipelines, etc. Using this process, the Applicant would ensure that all engineering is executed to meet or exceed the regulatory and Applicant's internal requirements.</p> <p>5) Commission a series of model tests of the FSRU facility at an experienced and well-established model test basin. More advanced detailed theoretical analyses would be completed first to identify the governing criteria and cased to be modeled in the basin. These model tests would cover both the survival sea states without an LNG carrier moored alongside and the operational sea states with the carrier moored alongside the FSRU. FSRU motions and mooring system loads would be measured under survival storm conditions to confirm the calculated results. Similarly, relative and absolute motions of and between the FSRU and the berthed carrier would be measured to confirm the operability limits of the berth mooring, fender, and loading arm systems. This would also provide information about FSRU motions for the detailed design of the topsides equipment.</p>		

**Table 6.1-1 Impacts and Mitigation Measures**

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<p>6) The Applicant would require independent third-party verification of detailed engineering, procured equipment, fabrication, construction, and offshore installation and commissioning of all Project components. Where such independent third-party verification would be required by a regulatory agency, or in order to obtain class certification, a single verification process would be conducted to ensure efficiency of this verification.</p> <p>7) During the construction phases of the proposed Project, both quality and safety audits at major fabrication/construction sites would be undertaken by the Applicant to ensure quality and safety of the Project components. Actual safety and quality performance during construction would be a contractual obligation for the various contractors selected by the Applicant.</p> <p>8) Before releasing the FSRU from its inshore commissioning (before towing to the proposed Project site) and after offshore installation of all components, but before facility startup, the Applicant would conduct a formal pre-startup review. The status of the facility, quality assurance, "outstanding items," operational preparedness, and compliance with legal and regulatory commitments would be carefully reviewed in a team session with final checks before proceeding first with the tow and second with initial startup of LNG operations. A number of action items would generally be identified</p>		

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		in such sessions; some would require closure before proceeding to the next step, and others would be identified for action by specific deadlines or milestones. This process and any findings would be formally documented.		
		<p><b>AMM PS-1b. Obtain Class Certification and a Safety Management Certificate for the FSRU.</b> Class certification and a safety management certificate are required under international agreements (i.e., through the IMO) for vessels engaged in international voyages. Although this would not be required for the stationary FSRU, the Applicant would obtain class certification for the facility. The Applicant would voluntarily provide a documented management system that would be in compliance with the ISM Code and the Applicant's internal health, safety, engineering, and construction standards. When operational, the FSRU would be certified under ISM, International Organization for Standardization (ISO) ISO-9000 quality standards and ISO-14000 environmental standards.</p> <p><b>AMM PS-1c. Periodic Inspections and Surveys by Classification Societies.</b> The Applicant would have conducted periodic inspections of the FSRU by classification societies, including annual inspections and a full survey after five years of facility operation and every five years thereafter. This would help ensure that shipboard procedures are regularly reviewed and updated and that processing and</p>		<p>USCG</p> <p>USCG</p>



Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		emergency equipment would be maintained appropriately and repaired or upgraded as necessary.		
		<p><b>AMM PS-1d. Designate Safety/Exclusion Zone and Area to be Avoided.</b> The Applicant would implement a 1,640-foot (500 m) radius safety zone around the FSRU, where public maritime traffic would be excluded. The Applicant has also proposed designating an Area to be Avoided with a radius of 2 NM (2.3 miles or 3.7 km) around the FSRU. Each of these zones would be marked on nautical charts and would serve as part of the Notice to Mariners to avoid these areas.</p> <p><b>AMM MT-6a. Patrol Safety Zone</b> also applies here.</p> <p><b>MM PS-1e. Include LNG cargo tank fire survivability after loss of insulation in engineering design analyses.</b> Safety engineering, HAZIDs, HAZOPs, and QRA supporting the detailed engineering design shall include cases where cargo tank insulation is presumed to fail in the event of a fire.</p> <p><b>MM PS-1f. Include structural component exposure to temperature extremes in engineering design analyses.</b> Safety engineering, HAZIDs, HAZOPs, and QRA supporting the detailed engineering design shall include cases where decking, hulls, and structural members are exposed to both cryogenic temperatures from spilled LNG and exposure to extreme heat from a fire.</p>		<p>USCG</p> <p>USCG</p> <p>USCG</p>

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<p><b>MM PS-1g. Conduct Post-Operational HAZOPs.</b> HAZOPs shall be conducted that address all LNG operations prior to beginning operation and after one year of operation in the manner and complexity prescribed by the Risk Management Program (RMP) under Clean Air Act Section 112 (r) and further described in regulations contained in 40 CFR 68. The results of these reviews shall be used to improve and refine operations practices and emergency response procedures. After the initial and first post-operational HAZOPs, additional HAZOPs shall be conducted every two years unless there has been a change in equipment or other significant change. The results of these reviews shall be reviewed as part of configuration management when any equipment, operational, or procedural changes have been undertaken that would necessitate conducting an additional HAZOP review for the new configuration. HAZOPs may be conducted by the Applicant or by a qualified third party, including participation by the CSLC.</p> <p><b>MM PS-1h. Use Standby Tug/Supply Vessel and Vessel Thrusters to Maintain FSRU or Carrier on Station.</b> Emergency operations procedures shall incorporate the use of the tug and thrusters to maintain the FSRU position in the event of a failure of the mooring system or to maintain the LNG carrier position in the event of a loss of propulsion or control.</p>		<p>USCG</p> <p>USCG</p>

**Table 6.1-1 Impacts and Mitigation Measures**

<b>Impact</b>	<b>Significance Before Mitigation</b>	<b>Mitigation Measures</b>	<b>Significance After Mitigation</b>	<b>Monitoring Responsibility</b>
<p><b>PS-2: Potential Release of LNG due to High Energy Marine Collision or Intentional Attack</b></p> <p>A high-energy collision with the FSRU or an LNG carrier and another vessel or an intentional attack could cause a rupture of the Moss tanks holding LNG, leading to a release of an unignited flammable vapor cloud that could extend beyond the 1,640-foot (500 m) radius exclusion zone around the FSRU, or could impact members of the boating public in the vicinity of an LNG carrier.</p>	Class I	<p><b>AMM PS-2a. Equip FSRU and LNG Carriers with AIS, Radar, and Marine VHF Radiotelephone.</b> The Applicant would equip the LNG carriers and the FSRU with an AIS and with real-time radar and marine VHF radiotelephone capabilities.</p> <p>The following also apply here:</p> <p><b>AMM PS-1a. Applicant Engineering and Project Execution Process.</b></p> <p><b>AMM PS-1b. Obtain Class Certification and a Safety Management Certificate for the FSRU.</b></p> <p><b>AMM PS-1c. Periodic Inspections and Surveys by Classification Societies.</b></p> <p><b>AMM PS-1d. Designate Safety/Exclusion Zone and Area to be Avoided.</b></p> <p><b>AMM MT-6a. Patrol Safety Zone.</b></p> <p><b>MM PS-2b. Homeland Security/USCG/Port Authority terrorist interdiction actions.</b> These potential actions will not be discussed specifically in this report. However, actions to prevent the takeover of a vessel by crew members or third parties shall be implemented to prevent an intentional high-speed collision with a large vessel.</p>	Class I	<p>USCG</p> <p>USCG</p> <p>USCG</p> <p>USCG</p> <p>USCG</p> <p>USCG</p> <p>USCG</p>

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<p><b>MM PS-2c. Active Response to Approaching Vessels or Aircraft.</b> At a predetermined distance (described in shipboard plans), consideration shall be given to using the standby tug to intercept approaching vessels, and action shall be taken using the FSRU thrusters or the tug to rotate the FSRU to reduce the potential for impact with the approaching vessel. Guidance for these communications, decision criteria for taking action, and avoidance actions shall be included in the facility operations and security manuals.</p> <p><b>MM PS-2d. Provide Aids to Aircraft Navigation.</b> The Applicant shall ensure that all required information is provided to the FAA as necessary, to place the FSRU location, safety zone information, and subsea pipeline locations and warnings on aviation sectional maps. This shall include a Notice to Mariners for chart correction and inclusion on the next edition of applicable navigation charts (and aviation sectional charts). These data shall be provided sufficiently early to allow incorporation of these changes and issuance of charts before beginning construction activities. Securite broadcasts on VHF-FM shall be made before an LNG carrier mooring or unmooring. This action shall be included in the facility and carrier operations plans.</p> <p>The following also apply here:</p> <p><b>MM PS-1e. Include LNG cargo tank fire survivability after loss of insulation in engineering design analyses.</b></p>		<p>USCG</p> <p>USCG</p> <p>USCG</p>



Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<p><b>AMM PS-3c. Comply with Design, Maintenance, inspection, and testing requirements.</b> The Applicant has committed to design, install, operate, maintain, and inspect pipelines to meet regulatory requirements, which includes automatic monitoring of pipeline pressure and other conditions using a SCADA system and routine internal pipeline inspections (including smart pigs). This reduces the chances for potential deterioration or incidental damage to the pipeline to go undetected and unrepaired.</p> <p><b>MM PS-3d. Areas Subject to Accelerated Corrosion Cathodic Protection System.</b> The Applicant shall identify any offshore areas where the pipeline may be subject to accelerated corrosion due to proximity to utility cables or adjacent pipeline cathodic protection systems. Cathodic protection systems shall be installed and made fully operational as soon as possible during pipeline construction.</p> <p><b>MM PS-3e. Emergency Communication/Warnings.</b> The Applicant's emergency plans and procedures shall require immediate notification of vessels in any offshore area, including hailing and Securite broadcasts, and immediate notification of local police and fire services whenever the monitoring system indicates that there might be a problem with subsea pipeline integrity.</p> <p>The following also apply here:</p> <p><b>MM MT-6d. Lights and Sound Signals.</b></p>		<p>USCG/CSLC</p> <p>USCG</p> <p>USCG</p> <p>USCG</p>

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<b>MM MT 6e. Information for Navigational Charts.</b> <b>MM MT 6f. Securite Broadcasts.</b>		USCG USCG
<p><b>PS-4: Potential Release of Unodorized Natural Gas due to Accidental Damage of Pipelines</b></p> <p>The potential exists for accidental or intentional damage to the buried or aboveground pipelines or valves carrying unodorized natural gas. Similar damage may occur due to a seismic event. This would result in the release of an unodorized natural gas cloud at concentrations that are likely to be in the flammable range.</p>	Class I	<p><b>AMM PS-4a. Pipeline and Facility Monitoring and Inspections.</b> The Applicant has committed to design, install, operate, maintain, and inspect pipelines and other Project facilities to meet regulatory requirements, which for pipelines includes automatic monitoring of pipeline pressure and other conditions using a SCADA system and to routine internal pipeline inspections (including smart pigs). This reduces the chances for potential deterioration or incidental damage to the pipeline to go undetected and unrepaired. For the odorization facility, this requires meeting fire and building code requirements for storage of highly flammable liquids and meeting or exceeding the requirements for spill control and response under Clean Water Act regulations.</p> <p><b>MM PS-4b. Define Shore Crossing as Pipeline HCA.</b> Any onshore area above the mean low tide mark where the pipeline is carrying unodorized natural gas shall be defined as an HCA.</p> <p><b>MM PS-4c. Automatic Monitoring for Flammable Gas.</b> An automatic monitoring system (sniffer) shall be designed and installed in shore crossing HCAs where the pipeline is carrying unodorized natural gas.</p>	Class I	CSLC  CSLC  CSLC

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<b>MM PS-4d. Emergency Communication and Warnings.</b> The Applicant's emergency plans and procedures shall require immediate notification of vessels in any nearshore area, immediate notification of local police and fire services, and visual and audible alarms to alert members of the public in the area (e.g., warning horns and strobe lights located along the onshore pipeline HCA corridor whenever the monitoring system indicates that there might be a problem with the pipeline integrity in that area.		USCG/CSLC
<b>PS-5: Potential Odorant Release and Fire</b> The potential exists for accidental or intentional damage to the odorant tank storage or injection components that would release highly flammable and foul-smelling odorant as a liquid.	Class II	<b>AMM PS-5a. Construction, Maintenance, and Operation in accordance with regulatory requirements.</b> SoCalGas would design, construct, maintain, and operate proposed Project facilities in accordance with applicable codes, standards, and regulatory requirements. <b>AMM HAZ 2a. Manage Used Oil in Accordance with USEPA and State Requirements</b> also applies here. <b>AMM HAZ-5a. Spill Prevention Countermeasure and Control Plan</b> also applies here. <b>MM PS-5b. Provide Automatic Gas Detection and Fire Suppression Systems at the Storage Tank Location.</b> Automatic monitoring for flammable gas shall be installed in the tank area to provide early warning of any leaks. Automatic fire detection and suppression systems shall be provided to protect the tank area and to ensure that manual action is not necessary to provide tank cooling and fire suppression in the event that a fire occurs.	Class III	RSPA OPS, CSLC, MMS  CSLC  CSLC  CSLC



Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<b>MM PS-5c. Evaluate adding odorant to the LNG prior to shipping; Implement when feasible.</b> Industry efforts to identify an economical and technically feasible odorant that could be added to LNG are currently ongoing. Detailed engineering design for the proposed Project shall evaluate options available at that time for odorizing LNG. The Applicant shall monitor such industry efforts and shall notify the USCG and the CSLC when such odorants become available. At such time as LNG odorants become available, the Applicant shall propose facility modifications as needed to deliver and regasify odorized LNG to the FSRU, which would eliminate the need for an odorization facility at the shore crossing or on-board the FSRU and eliminate the transport of unodorized natural gas in any part of the system.		USCG
<b>PS-6: Potential Release of Natural Gas due to Operational Incident or Natural Phenomena</b> An operational incident due to human error or equipment failures, or as a result of natural phenomena (earthquakes, landslides, etc.) could cause a release of natural gas from the high pressure natural gas pipelines. The greatest hazard to public safety from natural gas pipelines is from a component or pipeline failure that releases natural gas that is subsequently ignited.	Class I	<b>AMM PS-6a. Applicant Would Construct all Pipelines to Meet Class 3 Design Criteria.</b> The Applicant would construct all pipeline segments to meet the minimum design criteria for a Class 3 location, which will provide an increased level of protection in areas where requirements would be less stringent, based on current population density along the pipeline (i.e., in Class 1 or Class 2 locations). <b>AMM PS-3c. Comply with Design, Maintenance, inspection, and testing requirements</b> also applies here. <b>MM PS-6b. Pipeline Integrity Management Program.</b> The Applicant shall develop and implement a pipeline integrity management	Class I	CPUC SRB, RSPA OPS, CSLC  USCG/CSLC  CSLC

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<p>program, including confirming all potential HCAs (including identification of potential sites from “licensed” facility information [day care, nursing care, or similar facilities] available at the city and county level) and ensuring that the public education program is fully implemented before beginning pipeline operations.</p> <p><b>MM PS-6c. Include Automatic Shut Down Valves (ASDVs) and Check Valves in HCAs.</b> The Applicant shall include ASDVs with appropriate blow-down time on the upstream side of the pipeline and check valves on the downstream side in HCAs. This provides additional means for isolating segments of the pipeline should a rupture occur.</p> <p><b>MM PS-3d. Areas Subject to Accelerated Corrosion, Cathodic Protection System</b> also applies here.</p>		<p>CSLC</p> <p>CSLC</p>
<p><b>PS-7: Potential for Increased Consequences of Natural Gas Release and Fire in Areas with Less Robust Housing Construction</b></p> <p>In the event of an accident, there is a greater likelihood of injury, fatality, and property damage due to fire and explosion in Areas with Less Robust Housing Construction.</p>	Class I	<p><b>AMM PS-6a. Applicant Would Construct all Pipelines to Meet Class 3 Design Criteria</b> also applies here.</p> <p><b>MM PS-7a. Define HCA for any PIR that includes one or more mobile homes. Assist residents to improve emergency planning.</b> Areas where the PIR includes one or more normally occupied mobile homes or travel trailers used as temporary or semi-permanent housing shall be defined as an HCA. Mitigation measures (e.g., smoke detectors and outreach for notification and escape planning) shall be provided to all residents of that housing.</p>	Class I	<p>CPUC SRB, RSPA OPS, CSLC</p> <p>CSLC</p>

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<p><b>MM PS-7b. Define an HCA for areas where the PIR includes part or all of a manufactured-home residential community.</b> Provide mitigation measures (e.g., smoke detectors and outreach for notification and escape planning) to all residents of that community.</p> <p><b>MM PS-7c. Implement Public Education/Awareness Program.</b> In accordance with pipeline safety requirements contained in 49 CFR 192 Part O, the Applicant shall develop and implement a public education and awareness program that complies with API's recommended practice (RP) 1162, "Public Awareness Programs for Pipeline Operators," including providing specific information to residents regarding ways to reduce their risks in the event of a fire or other release involving the pipeline and recommended ways to test and maintain household smoke detectors. Mitigation measures shall be implemented to ensure that residents receive early warning of a fire (e.g., install and instruct residents regarding how to maintain smoke detectors), that they are provided information and assistance to plan escape routes, and that they can define how to account for other family members and neighbors to ensure that they have escaped. Additional information specific to residents living in manufactured housing can be obtained from the U.S. Fire Administration fact sheet. "Planning Emergency Escape from Manufactured Homes," which is available at <a href="http://fire.nist.gov/factsheets/escape.htm">http://fire.nist.gov/factsheets/escape.htm</a>.</p>		<p>CSLC</p> <p>CSLC</p>

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
<p><b>PS-8. PS-8:</b> <i>Potential for Increased Injuries or Fatalities in areas with Outdoor Activity</i></p> <p>In the event of an accident, there is an increased potential for injury or fatality near Center Road Pipeline Milepost 4.1 due to Community Activities Outdoors. Observed outdoor uses at the mobile home park on Dufau Road near Milepost (MP) 4.1 are sufficient to warrant designating this area as an HCA.</p>	Class I	<p><b>AMM PS-6a. Applicant Would Construct all Pipelines to Meet Class 3 Design Criteria</b> also applies here.</p> <p><b>MM PS-8a. Define HCA.</b> An HCA shall be defined in this area using the mobile home park property boundaries and any garden areas as the edge of an outdoor area that meets HCA criteria.</p>	Class I	<p>CSLC</p> <p>CSLC</p>
<b>MARINE TRAFFIC</b>				
<b>Offshore Construction</b>				
<p><b>MT-1:</b> <i>Temporary Disruption of Maritime Traffic and Increased Collision Risks During Offshore Construction</i></p> <p>Marine activities associated with site preparation, transportation, and installation of the mooring system, FSRU, or subsea pipeline could temporarily disrupt maritime traffic and increase the risk of vessel collision.</p>	Class II	<p><b>AMM MT-1a. Notice to Mariners.</b> A Notice to Mariners would be submitted to the USCG in sufficient time (see local deadlines for submitting information to be included in Notices to Mariners) to ensure proper dissemination to mariners before construction begins.</p> <p><b>AMM MT-1b. Safety Boat Warnings.</b> A safety boat would be stationed 3 to 5 NM (3.5 to 5.8 miles, or 5.6 to 9.3 km) from the pipe-laying barge in the direction of predominant traffic flow to warn vessels approaching construction that deviation from their course and speed is necessary.</p>	Class III	<p>USCG</p> <p>USCG</p>

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<p><b>AMM MT-1c. Automatic Identification System.</b> The pipe-laying barge and associated vessels would be equipped with an Automatic Identification System (AIS). The vessel, the name, and course speed show on a vessel's radar screen, alerting incoming vessels to the presence of the pipe-laying barge and providing the name and course speed, regardless of weather conditions, such as fog. The VTS would also be in communication with all shipping and would alert any vessel by radio that it detects a potential collision course with the pipe-laying barge.</p> <p><b>MM MT-1d. Notices to Mariners.</b> Notices to Mariners shall contain planned positions of vessels for the entire construction period, planned traffic lane closures, speed restrictions in the vicinity of vessels, and alternative routes and radio channels that Project vessels shall monitor and work. These notices shall include vessel names, if available, and shall mention the presence of the safety boat(s) mentioned below. Unforeseen short-notice changes shall be submitted to the USCG for dissemination as a Broadcast Notice to Mariners and included in the Securite broadcasts mentioned below.</p> <p><b>MM MT-1e. Securite broadcasts.</b> A Project vessel in the construction area shall make "Securite" broadcasts on VHF-FM at half-hour intervals, informing mariners about the current construction location, any lane restrictions, and preferred speed and standoff distances from the Project vessels and trailing pipeline. The vessel could be the safety boat mentioned above.</p>		<p>USCG</p> <p>USCG</p> <p>USCG</p>

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<p><b>MM MT-1f. Light and sound signals.</b> The pipe-laying barge shall have special light and sound signals indicating the presence of a vessel with restricted maneuverability.</p> <p><b>MM MT-1g. Safety Boat.</b> The safety boat shall be present at all times during construction; shall be equipped with radar and marine VHF radio; shall be of sufficient size and type; and shall have a sufficiently trained crew to respond to emergencies. This vessel's captain shall instruct intercepted vessels as to the location of construction vessels and the standoff distances from vessels and the pipeline to ensure that the intercepted vessel safely avoids the construction zone. This vessel shall be of sufficient speed to intercept vessels failing to alter course or answer radio hails. Alternatively, more than one vessel of this type shall be used and stationed in various positions around the construction site to ensure full coverage of the construction area.</p>		<p>USCG</p> <p>USCG</p>
<p><b>MT-2:</b> <i>Temporary Increase in Maritime Traffic Congestion at Local Ports During Offshore Construction</i></p> <p>Marine activities associated with site preparation; transportation; installation of the mooring system, FSRU, and subsea pipeline; and offshore horizontal directional drilling (HDD) activities could cause temporary local port congestion through lack of pier space, increased channel traffic, or increased demand for pilot services.</p>	Class III	<p><b>AMM MT-2a. Use of Ports Other than Port Hueneme.</b> The Applicant has agreed that, during construction, Applicant vessels with equipment, supplies, fuel, and construction materials would travel from ports other than Port Hueneme.</p>	Class III	USCG

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
<p><b>MT-3: Temporary Interference with Operations in the Point Mugu Sea Range or the SOCAL Range Complex During Offshore Construction</b></p> <p>Marine activities associated with site preparation; transportation; and installation of the mooring system, FSRU, or subsea pipeline temporarily could burden maritime traffic tracking systems or make clearing of some warning areas impossible, thus temporarily disrupting operations in the Point Mugu Sea Range and the SOCAL Range Complex (Class II).</p>	Class II	<p><b>MM MT-3a. Avoid Point Mugu Sea Range.</b> Except when necessary, use of the waters in the Point Mugu Sea Range shall be avoided during construction. When construction must take place in a Point Mugu Sea Range warning area, such as where the subsea pipeline crosses the range, notice of at least one month, and preferably six months, shall be given to the U.S. Navy to allow for adequate coordination.</p> <p><b>MM MT-3b. Daily Safety Briefs.</b> Daily safety briefs aboard all Project vessels shall include instructions to avoid use of Point Mugu Sea Range waters when possible.</p> <p><b>MM MT-3c. Daily Coordination with the U.S. Navy.</b> The Applicant shall coordinate daily (or at an interval that the U.S. Navy deems sufficient) with the U.S. Navy to ensure that no conflicts exist between Navy operations and Project construction when Project vessels would be expected to be in any warning area. Should range operations that require an area to be free of vessel traffic be scheduled in warning areas to be used by construction vessels, construction shall be postponed until the situation is resolved to the satisfaction of Project management and the U.S. Navy. Coordination with the U.S. Navy shall be complete at least one month prior to the date that construction begins.</p>	Class III	<p>USCG</p> <p>USCG</p> <p>USCG</p>

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<b>MM MT-3d. Monitor U.S. Navy Securite Broadcasts.</b> Project vessels shall monitor all U.S. Navy "Securite" warning broadcasts on VHF-FM. This would likely require switching from normally monitored frequencies, when prompted by a preliminary broadcast by the U.S. Navy, for additional information. Instructions to do so shall be included in daily safety briefs. Conflicts, actual or perceived, shall be addressed immediately by the Project person-in-charge on-site, or by individual Project vessel captains via VHF communications with the U.S. Navy.		USCG
<b>MT-4:</b> <i>Temporary Disruption in Maritime Traffic and Increased Risk of Vessel Collisions Due to Activities at the HDD Exit Point and Pipe Laying</i> Marine activities associated with the offshore HDD exit point and connection to the offshore pipeline could disrupt maritime traffic temporarily, and temporarily increase the risk of vessel collision or fishing gear entanglement.	Class II	<b>MM MT-4a. Guard Boats.</b> Two guard boats, in addition to the safety boat(s) noted in MM MT-1b, shall be stationed on watch while construction takes place in waters less than 656 feet (200 m) deep. These smaller guard boats shall be stationed on either side of the construction vessels and intercept the faster recreational vessels that may not have marine radios and shall be equipped with spotlights for identification of non-answering vessels at night and loud hailer or bullhorns to warn these vessels about the construction area. <b>MM MT-4b. Post Construction Schedule Signs.</b> Signs shall be posted at local marinas and ports to inform the public of the nearshore construction schedule at least one month prior to the first day of construction. One week prior to construction the Applicant shall replace any signs that are no longer present. <b>MM MT-1a. Safety Boat Warnings</b> also applies here.	Class III	USCG  USCG/CSLC  USCG



Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
<p><b>MT-5: Long-Term Interference with Operations in the Point Mugu Sea Range and the SOCAL Range Complex</b></p> <p>Marine activities associated with operations could burden maritime traffic tracking systems or could make clearing of some warning areas impossible, thus disrupting operations in the Point Mugu Sea Range or the SOCAL Range Complex over the long-term.</p>	Class II	<p><b>MM MT-5a. Follow U.S. Navy Securite Broadcasts.</b> U.S. Navy Securite broadcasts shall be heeded.</p> <p><b>MM MT-5b. LNG Carrier Schedules.</b> Provide LNG Carrier schedules in advance to the Navy and Masters to coordinate their transits with the Navy.</p> <p><b>MM MT-5c. Coordinate with the U.S. Navy.</b> The Applicant shall coordinate with the Navy on the timing of the LNG shipments and with U.S. Navy range scheduling authorities to ensure that they do not conflict with major exercises.</p>	Class III	<p>USCG</p> <p>USCG</p> <p>USCG</p>
<p><b>MT-6: Long-Term Disruption in Maritime Traffic and Increased Risk of Vessel Collisions Due to FSRU Location</b></p> <p>The FSRU mooring location would be situated close to the Southbound Coastwise Traffic Lane, with relatively high levels of maritime traffic and vessels entering/leaving Port Hueneme; thus, maritime traffic could be disrupted by Project operations and the risk of vessel collision would be increased for the long term (Class II).</p>		<p><b>AMM MT-6a. Patrol Safety Zone.</b> The tug/supply vessel on standby duty would patrol the DWP's designated safety zone, except during docking and undocking operations. Dedicated personnel aboard the FSRU would monitor marine traffic.</p> <p>Mitigation Measure(s) for Impact MT-6: Long-Term Disruption in Maritime Traffic and Increased Risk of Vessel Collisions Due to FSRU Location</p> <p><b>MM MT-6b. Live Radar and Visual Watch.</b> Live radar and visual watch shall be used to detect and identify approaching vessels and note approaching aircraft at all times. The watchstanders shall provide a full-time radio watch, which shall monitor VHF-FM frequencies commonly used for emergency and normal ship-to-ship communications, and contact approaching vessels to inform them of the</p>		<p>USCG</p> <p>USCG</p>

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<p>FSRU's location, intentions, and the nature of safety and/or security zones in effect. Guidance for these FSRU positions shall be included in the facility operations and security manuals.</p> <p><b>MM MT-6c. Facility Operations Manual.</b> The Applicant shall formalize procedures in the facility operations manual by which the AIS of visiting LNG carriers shall be secured while they are moored to the FSRU. The lighting and sound signals shall be consistent with the requirements of 72 COLREGS or the designated USCG regulations for navigation aids on offshore obstructions and/or artificial islands.</p> <p><b>MM MT-6d. Lights and Sound Signals.</b> The FSRU shall be equipped with sound signals and lit in a fashion to uniquely differentiate it from vessels under way.</p> <p><b>MM MT-6e. Information for Navigational Charts.</b> The Applicant shall ensure that all required information is provided to the USCG and other agencies, as necessary, to place the FSRU location, safety zone information, and subsea pipeline locations and warnings on navigational charts. This shall include a Notice to Mariners for chart correction and inclusion on the next edition of applicable navigation charts. These data shall be provided sufficiently early to allow these changes to be made on charts concurrently with pipeline and mooring construction, and when FSRU mooring occurs. The Applicant shall coordinate with the USCG to identify acceptable deadlines currently in place.</p> <p><b>MM MT-6f. Securite Broadcasts.</b> Securite</p>		<p>USCG</p> <p>USCG</p> <p>USCG</p>

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		broadcasts on VHF-FM shall be made prior to an LNG carrier mooring or unmooring. This action shall be included in the facility operations plan.		USCG
<p><b>MT-7: Long-Term Disruption of Local Maritime Traffic and Increased Risk of Vessel Collisions</b></p> <p>LNG carriers, tugs, and attending vessels transiting to and from anchorage or port, or their loitering under way near the FSRU, could increase or disrupt maritime traffic and increase the risk of vessel collision for the long term.</p>	Class II	<p><b>AMM MT-7a. Provisions for Delays.</b> The Applicant has stated that no Project vessels (including LNG carriers) would use anchorages. If there is a delay in docking, LNG carriers would slow their speed to arrive at a suitable time or stop or drift between 100 and 200 NM (115 and 230 miles, or 185 and 370 km) offshore.</p> <p><b>MM MT-7b. Procedures for Delays.</b> Procedures that mandate early notification of possible delays shall be incorporated into the facility operations manual for LNG carriers so that a carrier might reduce transit speed in order to arrive at a later time. Failing the timeliness required for this action, the LNG carrier shall remain offshore at least 12 NM (13.8 miles or 22 km) from land.</p> <p><b>MM MT-7c. Coordination with Ports.</b> There shall be coordination between the Applicant's designee at the FSRU and the USCG Captain of the Ports of Los Angeles and Long Beach to identify appropriate "emergency anchorage."</p> <p><b>MM MT-7d. Maximum Number of LNG Carriers.</b> The number of LNG carriers at the FSRU shall be limited to a maximum of one.</p>	Class III	<p>USCG</p> <p>USCG</p> <p>USCG</p> <p>USCG</p>

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
<b>AESTHETICS</b>				
<b>Offshore Construction</b>				
<b>AES-1: Change in Nighttime Views Caused by Offshore Pipeline Construction</b> Night lighting during construction could be visible from the shore and to residents living in the foothills and higher elevation areas in Malibu, thereby altering the nighttime viewshed.	Class II	<b>MM BioMar-13a. Construction Lighting Control</b> also applies here.	Class III	USCG CSLC
<b>Onshore Construction</b>				
<b>AES-2: The FSRU Would Alter Ocean Views from Onshore and Channel Islands Viewpoints</b> The addition of the FSRU in an unobstructed viewshed could alter views from beach areas, residences at sea level, and residences at higher elevations.	Class III	None	Class III	
<b>AES-3: The FSRU May Alter the Anticipated Views for Recreational Boaters</b> The FSRU would change the visual character of the ocean view for recreational boaters	Class I	No maximum feasible mitigation measures available to reduce significant impact.	Class I	
<b>AES-4: Long-Term Change in Nighttime Views</b> Night lighting on FSRU could be visible to residents, thereby altering night vistas.	Class II	<b>MM BioMar-13a. Construction Lighting Control</b> also applies here.	Class II	USCG

**Table 6.1-1      Impacts and Mitigation Measures**

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
<p><b>AES-5: Construction Equipment and Activities Would be Visible on City Image Corridors/Scenic Highways</b></p> <p>Staging areas and equipment could be visible to residents and travelers on City Image Corridors/Scenic Highways during pipeline construction, thereby altering the viewshed.</p>	Class II	<p><b>MM AES-5a. Berms and Fences.</b> The Applicant shall minimize visual impacts from staging areas with berms and fences. A chain-link fence, approximately 6 feet (1.8 m), would surround the staging areas and would be covered with privacy screening. The type of screening shall be approved by the Community Development Director and Public Works Director before authorization.</p> <p><b>MM AES-5b. Light Positioning.</b> The Applicant shall shield construction lighting or position it at a 45-degree angle whenever possible to minimize glare.</p>	Class II	<p>CSLC</p> <p>CSLC</p>
<p><b>AES-6: Construction Equipment and Activities Would be Visible on Local Roads</b></p> <p>Staging areas and equipment could be visible to residents and travelers on roads, thereby altering the viewshed.</p>	Class II	<p><b>MM AES-5a. Berms and Fences</b> also applies here.</p> <p><b>MM AES-5b. Light Positioning</b> also applies here.</p>	Class II	<p>CSLC</p> <p>CSLC</p>
<b>AGRICULTURE AND SOILS</b>				
<p><b>AGR-1: Loss of Agricultural Land</b></p> <p>Construction activities could temporarily cause a loss of agricultural land, crops, or crop production. Operations could cause a loss of agricultural land, crops, or crop production. Agricultural land that is preserved under the Williamson Act could be converted from agricultural land to non-agricultural land.</p>	Class II	<p><b>AMM AGR-1a. Compensation.</b> Per standard Southern California Gas Company (SoCalGas) right-of-way acquisition procedures, compensation to landowners for temporary construction easement, crop loss, or change in crop production would be determined by fairly appraised value. Compensation would be paid to the owner based on the amount of time in which the right-of-way remains fallow as a result of construction.</p> <p><b>MM AGR-1b. Compensation for Temporary Loss of Agricultural Land.</b> Compensation</p>	Class III	<p>CSLC</p> <p>CSLC</p>

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		shall be in the amount of the fair market value of the easements, losses or changes determined through an appraisal conducted by an independent appraiser, or a mutually agreed-upon settlement reached between the Applicant and the landowner. Payment shall be made no later than 45 days after the completion of construction. Dispute resolution shall be conducted by a mutually agreed upon arbitrator if a settlement is not reached 60 days prior to the start of construction. The arbitrator shall be compensated by the Applicant.		
<p><b>AGR-2:</b> <i>Topsoil Mixing and Compaction</i></p> <p>Construction activities could result in topsoil and subsoil mixing and/or soil compaction, thereby reducing agricultural productivity.</p>	Class II	<p><b>MM AGR-2a. Topsoil Salvage and Replacement.</b> The Applicant shall comply with all aspects of the <b>MM TerrBio-5a - Weed Management Plan</b> for all actively cultivated agricultural lands disturbed by onshore pipeline construction, as applicable. In addition, for agricultural lands, the Applicant shall ensure that the upper 12 inches (0.3 m) of topsoil (or less depending on the existing depth of the topsoil) is salvaged and replaced wherever the pipeline is trenched.</p> <p><b>MM AGR-2b. Landowner Compensation for Soil Productivity Losses.</b> The Applicant shall negotiate with landowners the measures landowners would like undertaken to ensure that soil productivity is maintained. Dispute resolution shall be conducted by a mutually agreed upon arbitrator if a written settlement is not reached before 60 days prior to the start of construction. The arbitrator shall be compensated by the Applicant.</p>	Class III	<p>CSLC</p>        <p>CSLC</p>

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
<b>AGR-3: Dust Deposition</b> Dust generated during construction could be deposited on adjacent agricultural lands with planted crops, temporarily reducing productivity.	Class II	<b>MM AGR-3a. Meet Water Quality Standards.</b> All water used for dust suppression shall meet all applicable water quality discharge standards and have obtained any applicable discharge approvals. Water to agricultural field shall not be treated with chemicals such that it could adversely affect agricultural fields. <b>AMM AIR-5a. Construction Fugitive Dust Plan</b> also applies here.	Class III	CSLC  CSLC
<b>AGR-4:</b> Loss of tree rows could reduce agricultural productivity.	Class II	<b>MM TerrBio-3b. Tree Avoidance and Replacement</b> also applies here.	Class III	CSLC
<b>AIR QUALITY</b>				
<b>Offshore</b>				
<b>AIR-1: Emissions of Regulated Pollutants Generated During Offshore Construction</b> Vessel or equipment emissions used during the transportation or installation of the mooring system, FSRU, and offshore pipeline could contribute to existing violations of O <sub>3</sub> and particulate standards or could cause temporary reductions in ambient air quality.	Class II	<b>AMM AIR-1a. Using Low Emission-Emitting Equipment.</b> The Applicant would use construction equipment with the cleanest (lowest emitting) available equipment and clean, low-sulfur diesel. <b>MM AIR-1b. Conformity Analysis.</b> The Applicant shall comply with Ventura and Los Angeles Counties' prescription for offshore construction emissions reduction as set forth in the conformity analysis.	Class III	USCG/CSLC  USCG/CSLC
<b>AIR-2: Stationary Sources Emissions of Regulated Pollutants During Offshore Operations</b> Regulated pollutants (including criteria and hazardous) could be emitted above regulatory standards for a long-term during normal operations of the FSRU.	Class II	<b>AMM AIR-2a. NO<sub>x</sub>, CO, and VOC Control.</b> Selective Catalytic Reduction (SCR) would be used to control NO <sub>x</sub> emissions generated by the primary internal combustion engines, and catalytic oxidation would be used to control CO and ROC. For the submerged combustion vaporizers, low-NO <sub>x</sub> burners would be used to minimize NO <sub>x</sub> formation, and the standby	Class III	USCG/CSLC

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		generator and firewater pump shall comply with the 2006 USEPA Tier 2 emission standards. <b>MM AIR-2b. NSR Offset Requirement.</b> The Applicant shall comply with offset requirements negotiated with the VCAPCD NSR rule.		USCG/CSLC
<b>AIR-3: Emissions of Ammonia During Offshore Operations</b> Ammonia could be released for a long term in excess of reportable quantities or result in high ambient concentrations.	Class III	<b>AMM AIR-3a. Limit Ammonia Slip.</b> Ammonia slip in the SCR engine exhaust would be limited to 10 parts per million volume.	Class III	USCG/CSLC
<b>AIR-4: Emissions from Mobile Sources During Offshore Operations</b> Emissions generated by mobile source emissions could generate long-term emissions that contribute to existing violations of O <sub>3</sub> and particulate standards.	Class III	<b>AMM AIR-4a. Use of New Vessels.</b> New supply and support vessels with USEPA-compliant engines would be used.	Class III	USCG/CSLC
<b>AIR-5: Emissions Generated During Onshore Construction</b> Emissions from construction equipment associated with horizontal directional drilling (HDD) and onshore pipeline construction could reduce temporarily local ambient air quality and would contribute to existing violations of O <sub>3</sub> and PM <sub>10</sub> standards.	Class II	<b>AMM AIR-5a: Construction Fugitive Dust Plan.</b> The Applicant would develop and implement a Construction Fugitive Dust Control Plan. It would be prepared and submitted to the local air pollution control board before construction activities begin and would describe how to minimize fugitive dust generated by construction activities. The plan would include the following: <ul style="list-style-type: none"> <li>• Describe each active operation(s) that may result in the generation of fugitive dust.</li> <li>• Identify all sources of fugitive dust (e.g., earth moving, storage piles, vehicular traffic, etc.).</li> </ul>	Class III	CSLC



Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<ul style="list-style-type: none"> <li>Describe the control measures to be applied to each of the sources of dust emissions identified above; the description shall be sufficiently detailed to demonstrate that the best available control measure(s) as specified in Table 4.6-6 would be used and/or installed during all periods of active operations. Table 4.6-7 summarizes control measures for wind conditions exceeding 25 miles per hour (40 km per hour).</li> </ul> <b>MM AIR-1b. Conformity Analysis</b> also applies here.		CSLC
<b>AIR-6: Emissions From an Accident During Onshore Operations</b> In the event of a pipeline accident, petroleum products temporarily could be exposed to the atmosphere, causing emissions of volatile organic compounds.	Class III	None	Class III	
<b>AIR-7: Emissions Generated During Offshore and Onshore Construction and Operations That Are Not Addressed Under Permits</b> Emissions generated by vessels or equipment used during the transportation, installation, or operation of all components of the proposed Project temporarily could exceed conformity threshold levels of nonattainment pollutants in Ventura or Los Angeles County.	Class II	<b>MM AIR-1b. Conformity Analysis</b> also applies here.	Class III	CSLC

[illegible]

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
turbidity at the offshore exit point could cause fish to avoid this area.				
<b>Impact BioMar-4: Burial of Sessile Marine Biota</b> Construction activities associated with pipeline and mooring installation could temporarily disturb soft substrate sediments and could bury or crush sessile marine biota such as benthic invertebrates	Class III	None.	Class III	USCG
<b>BioMar-5: Mortality and Morbidity of Marine Biota from Spills</b> Oil or fuel spills during construction or operation, or LNG spills, could cause morbidity or mortality of marine biota, including fish, invertebrates, sea birds, sea turtles, and marine mammals through direct contact or ingestion of the material.	Class II	<b>AMM BioMar-5: Control Measures.</b> Control measures shall be instituted on the FSRU, including systems to prevent or limit releases, proper drainage, emergency shutdown systems and depressurizing systems, and spill containment systems to prevent the potential risk of an accidental release of any hazardous materials. A detailed Spill Prevention, Control, and Countermeasures Plan (SPCC) shall be developed and approved before beginning construction activities and shall be implemented during construction and operation activities. The SPCC shall be submitted to the USCG and the CSLC at least 60 days prior to initiation of Project construction. <ul style="list-style-type: none"> <li>Project design shall comply with all applicable regulations to minimize the potential for LNG spill occurrence, and emergency response plans shall be prepared. Mitigation measures for reducing the potential risk of an accidental release of oil, fuel, or LNG are detailed in Subsection 4.12, "Hazardous Materials," and</li> </ul>	Class III	USCG

**Table 6.1-1 Impacts and Mitigation Measures**

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<p>Subsection 4.2, "Public Safety."</p> <ul style="list-style-type: none"> <li>• All construction and operational vessels shall comply with the following measures:</li> <li>• Oil and fuel spill response plans shall be formulated and submitted to the regulatory agencies for review and approval prior to construction and operation. These plans shall include: <ul style="list-style-type: none"> <li>- Identification of responsible parties;</li> <li>- Training requirements for vessel crews;</li> <li>- Agency notifications in the event of a spill;</li> <li>- Identification of oil and fuel cleanup resources in the event of a substantial spill;</li> <li>- Oil and fuel spill containment, cleanup, and disposal equipment;</li> <li>- Identification of approved disposal methods and sites; HAZMAT safety issues; and Wildlife rescue resources.</li> </ul> </li> <li>• All vessels shall carry absorbent pads and other cleanup materials as well as personnel safety equipment and approved containers for soiled materials.</li> <li>• Crew boats, tugs, and other small craft routinely present at or near the construction site or at the FSRU shall carry absorbent booms and other containment equipment as well as approved storage containers for soiled materials. Oil and fuel spill response units shall be available in the event of a significant spill and shall be capable of responding within hours of notification.</li> </ul>		

**Table 6.1-1 Impacts and Mitigation Measures**

<b>Impact</b>	<b>Significance Before Mitigation</b>	<b>Mitigation Measures</b>	<b>Significance After Mitigation</b>	<b>Monitoring Responsibility</b>
<p><b>BioMar-6: Discharge of Bilge Water, Graywater, and Deck Runoff</b>  A discharge of bilge water, gray water, or deck runoff from the FSRU or from the LNG tankers could result in the release of contaminants into the marine environment. A release of contaminants could cause mortality or morbidity of fish and/or benthic communities.</p>	Class II	<p><b>AMM BioMar-6a. Treatment of Discharge Water.</b> The Applicant would treat graywater and sewage in chemical or biological sanitary waste systems pursuant to NPDES requirements before discharge. Runoff from the deck would be treated using an oil and water separator.</p> <p><b>AMM HAZ-2a. Manage Used Oil in Accordance with USEPA and State Requirements.</b></p> <p><b>AMM HAZ-5a. Spill Prevention Countermeasure and Control Plan.</b></p>	Class III	<p>USCG</p> <p>USCG</p> <p>USCG/CSLC</p>
<p><b>BioMar-7: Discharge of Ballast Water</b>  A release of ballast water containing exotic species could introduce exotic species that directly compete with native organisms, affecting the viability of native species.</p>	Class III	<p><b>AMM BioMar-7a. Compliance with Regulations.</b> The Applicant would conduct discharges from the FSRU and LNG tankers in compliance with all applicable State and Federal regulations.</p>	Class III	USCG
<p><b>BioMar-8: Increase/Decrease in Fish Abundance or Commercially Important Benthic Species</b>  Commercially important fish species could potentially avoid the Project site due to increased human activity and Project-related noise. Additionally, fish and other benthic species could be attracted to the low relief habitat provided by the subsea pipeline decreasing abundance in other heavily fished areas.</p>	Class III	None	Class III	CDFG

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
<p><b>BioMar-9:</b> <i>Collision between Project Vessels and Marine Mammals or Sea Turtles</i></p> <p>Construction and operation vessels could collide with marine mammals or sea turtles resting on the ocean surface, resulting in injury or mortality.</p>	Class II	<p><b>AMM BioMar-9a. Avoid Offshore Construction During Migration Season.</b> The Applicant would conduct offshore construction activities outside the gray whale migration season (June 1-November 30).</p> <p><b>AMM BioMar-9b. Marine Mammal Monitoring.</b> All construction and operational vessels would carry two qualified marine monitors to provide a 360-degree view and watch for and alert vessel crews of the presence of marine mammals during construction activities. During operational activities, supply boats would also carry one qualified marine biological monitor. Additionally:</p> <ul style="list-style-type: none"> <li>The monitors would receive training from a qualified independent marine wildlife mitigation firm approved in advance by NOAA Fisheries in consultation with the CDFG. The training would enable monitors to identify marine mammal and sea turtle species and to understand their behaviors, seasonal migrations, and the importance of avoiding them.</li> <li>Monitors would have the authority to stop work until monitors determine there is no longer a threat and/or the animal(s) transits the area if a marine mammal or sea turtle approaches the 100-yard safety zone or the monitors determine that the Project operations have the potential to threaten the health or safety of marine wildlife or “take” a protected species as defined by regulations implementing the ESA and MMPA.</li> </ul>	Class III	<p>USCG</p> <p>USCG/CSLC</p>

**Table 6.1-1 Impacts and Mitigation Measures**

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<ul style="list-style-type: none"> <li>Monitors would have no other duty than to watch for marine mammals and sea turtles while each vessel is under way.</li> <li>Each monitor would maintain watch for marine mammals and sea turtles at all times while under way. If any whales are observed, the monitor would request the vessel operator to employ the following procedures:               <ul style="list-style-type: none"> <li>Do not approach whales or any threatened or endangered wildlife closer than 1,000 feet.</li> <li>Approach whales from the side or rear on a parallel course.</li> <li>Do not cross directly in front of the whales.</li> <li>Maintain the same speed as the whales.</li> <li>Do not attempt to herd or drive any whales.</li> <li>If a whale exhibits evasive or defensive behavior, stop the vessel until the whale has left the immediate area.</li> <li>Do not come between or separate a mother and its calf.</li> </ul> </li> </ul> <p>In addition, qualified independent monitors, approved in advance by NOAA Fisheries and CDFG, would be aboard the pipe-laying vessel while it is deployed at the Project site. The monitors would:</p> <ul style="list-style-type: none"> <li>Establish and maintain communications with the vessel operator at all times.</li> <li>Be positioned so that a 360-degree view is maintained.</li> <li>Be on watch during all pipe-laying operations,</li> </ul>		

**Table 6.1-1 Impacts and Mitigation Measures**

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<ul style="list-style-type: none"> <li>• day or night.</li> <li>• Use night vision or low-light binoculars in reduced light.</li> <li>• If a collision appears likely, the speed of the vessel shall be reduced as quickly and as much as possible and propulsion machinery engaged only when necessary to maintain position.</li> <li>• If a collision is likely, monitors and available crew aboard the ship shall take up observation positions to help report sightings to the monitor so that appropriate actions can be taken to avoid collision.</li> </ul>		
		<p>In the unlikely event that a whale is injured, the operator would immediately notify:</p> <ul style="list-style-type: none"> <li>• Stranding Coordinator, NOAA Fisheries, Long Beach (562-980-4017)</li> <li>• Enforcement Dispatch Desk, CDFG, Long Beach (562-590-5133)</li> <li>• Environmental Planning and Management, CSLC, Sacramento (916-574-1890)</li> <li>• Santa Barbara Marine Mammal Center (805-687-3255)</li> </ul> <p>A detailed written report would be prepared by the monitor and dispatched to NOAA Fisheries, the CDFG, and the CSLC. A final report summarizing the monitoring activities for the Project shall also be provided to the above-mentioned agencies within 60 days of the conclusion of offshore facilities construction.</p>		



**Table 6.1-1 Impacts and Mitigation Measures**

<b>Impact</b>	<b>Significance Before Mitigation</b>	<b>Mitigation Measures</b>	<b>Significance After Mitigation</b>	<b>Monitoring Responsibility</b>
<p><b>BioMar-10: Noise Disrupting Marine Mammal Behavior</b> Noise from construction and operation vessels or equipment could disrupt migrations; interfere with or mask communications, prey and predator detection, and/or navigation; cause adverse behavioral changes; or result in temporary or permanent hearing loss.</p>	Class II	<p><b>AMM BioMar-9a. Avoid Offshore Construction During Migration Season</b> also applies here.</p> <p><b>AMM BioMar-9b. Marine Mammal Monitoring</b> also applies here.</p>	Class III	<p>USCG</p> <p>USCG/CSLC</p>
<p><b>BioMar-11: Entanglement of Marine Mammals and Turtles</b> Marine mammals or sea turtles could become entangled in construction or operation equipment, causing injury or mortality.</p>	Class II	<p><b>AMM BioMar-9b. Marine Mammal Monitoring</b> also applies here.</p> <p><b>MM BioMar 11-a. Deployment of Potentially Entangling Material.</b> Any material that has the potential for entangling marine mammals or sea turtles shall be deployed only as long as necessary to perform its task, and then immediately removed from the Project site. Possible slack shall be taken out of any material that could cause entanglement. (It is understood that some slack is necessary to allow for currents, tides, and other factors.) In the unlikely event that an entanglement appears likely, the monitor shall request the operator to remove all material that could cause entanglement, if possible, and to take up as much slack as possible in material that cannot be immediately removed.</p> <p>Temporary mooring buoys shall be positioned with heavy steel cables or chains to minimize potential entanglements. Mooring lines shall be used only when vessels are moved, and not left on mooring buoys when not in use.</p>	Class III	<p>USCG/CSLC</p> <p>USCG/CSLC</p>

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<b>MM BioMar 11b. Notification.</b> In the unlikely event that a marine mammal or sea turtle is entangled, the operator shall immediately notify the stranding coordinator at NOAA Fisheries in Long Beach (562-980-4017) and the Santa Barbara Marine Mammal Center (805-687-3255) so that a rescue effort may be initiated.		USCG/CSLC
<b>BioMar-12: Release of LNG, Natural Gas, Fuel, or Oil Causes Injury or Mortality of Marine Mammals</b> A release of LNG, natural gas, fuel, or oil could cause injury or mortality of marine mammals through direct contact or ingestion of the material.	Class II	<b>MM BioMar-5a. Control Measures</b> also applies here.	Class III	USCG CSLC
<b>BioMar-13: Construction or Operation Vessels Act as an Attractive Nuisance, Disrupting Marine Mammal, Sea Turtle, or Seabird Behavior</b> Lights and debris from the FSRU and vessels could attract marine mammals, sea turtles, or seabirds, rendering them vulnerable to other impacts such as collision, noise, entanglement, spills, and predation.	Class II	<b>MM BioMar-13a.</b> Construction/Operations Lighting Control. A plan shall be submitted for approval by the USCG and the CSLC with review by local governments at least sixty days prior to construction that shows the Project will apply the following restrictions on lighting, except that lights required by the USCG or for safety purposes shall be used in accordance with Federal regulations by: <ul style="list-style-type: none"> <li>Limiting lighting used during construction and operation activities to the number of lights and wattage necessary to perform such activities.</li> <li>Once an activity has been completed, extinguishing all lights used for that activity.</li> <li>Shielding lights so that the beam falls only on the workspace and so that no light beams are directly visible more than 1000 m distant.</li> <li>Limiting lights shining into the water to the</li> </ul>	Class III	USCG/CSLC

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		area immediately around the vessels, except that searchlights may be used when essential for safe navigation, personnel safety, or for other safety reasons.		
<b>BioMar-14: Construction or Operation Vessels Act as an Attractive Nuisance, Disrupting Marine Mammal, Sea Turtle, or Seabird Behavior</b> Construction or operational activities could alter sensitive habitats such that marine mammal, sea turtle, or seabird reproduction could be reduced, prey species could be eliminated, or animals might avoid an area.	Class III	None	Class III	
<b>TERRESTRIAL BIOLOGY</b>				
<b>TerrBio-1: Temporary Increase in Sedimentation</b> Construction activities could cause increased sedimentation and soil erosion, and expose contaminated soils during trenching activities. The HDD procedures to install the pipeline beneath Ormond Beach may present remote potential for drilling fluid seepage. These construction methods could cause habitat degradation to sensitive plant species or wetlands.	Class II	<b>AMM TerrBio-1a: Erosion Control.</b> The Applicant would comply with all permit requirements (Federal Clean Water Act Section 404 [obtaining a permit from the USACE], California Clean Water Act Section 401 certification, and CDFG Section 1601 Streambed Alteration Agreement) for all water crossings or disturbances. To minimize sedimentation, the Applicant would implement the following measures during construction: <ul style="list-style-type: none"> <li>Clearing of vegetation shall be confined to the minimal area needed to conduct the construction activities;</li> </ul>	Class III	CSLC

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<ul style="list-style-type: none"> <li>Any work near or adjacent to any stream, wetland, or waterway shall be protected through installation of erosion-control fencing or other devices such as hay bales, matting, or mulch;</li> <li>Work near or in waters of the United States shall be conducted in a manner that minimizes turbidity, erosion, and other water quality impacts concerning regulatory agencies;</li> <li>Any material that may be disturbed near or adjacent to streams or other waterways shall be contained to prevent any erosion into adjacent streams or waterways;</li> <li>Construction equipment shall be stored and maintained at least 50 feet from streams or other waterways;</li> <li>At the completion of construction activities, disturbed soils would be stabilized and erosion-control fencing would remain until restoration activities ensure that soil is properly stabilized;</li> <li>Best Management Practices (BMPs) shall be incorporated into the construction activities; and</li> <li>A Stormwater Pollution Prevention Plan (SWPPP) shall be implemented.</li> </ul> <p><b>MM TerrBio-1b. Spill Containment/Management.</b> The Applicant has proposed the following measures to control and manage spills:</p> <p>When working near waterways, the contractor</p>		CSLC

**Table 6.1-1 Impacts and Mitigation Measures**

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		shall have an emergency spill containment kit to contain and remove spilled fuels and hydraulic fluids;		
		<ul style="list-style-type: none"> <li>• When feasible, equipment and vehicles shall be fueled and maintained in a designated Maintenance and Staging Area. Equipment refueling or storage of hazardous or petroleum materials shall not occur within 100 feet of wetlands, beaches, streams, or other waterways. If a 100-foot buffer is not feasible for a given refueling activity, secondary containment shall be employed during the fuel transfer and the transfer shall be continuously monitored to prevent accidental spills;</li> <li>• If a designated area is not available, construction equipment shall be stored and maintained at least 100 feet from any jurisdictional stream channel, or as far away as available space allows in the right-of-way corridor. If this is not feasible at a particular crossing location because of space limitations or equipment breakdown, SoCalGas shall implement BMPs to ensure that equipment, fuel, and spoils do not enter the stream channel. Appropriate BMPs include safety fencing, secondary containment for fuel tanks and fuel transfers, drip pans, spill kits, and proper disposal of waste products;</li> <li>• A SPCC Plan shall be drafted to minimize potential impacts related to construction fluids in the event of equipment failure or leakage; and</li> </ul>		

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<ul style="list-style-type: none"> <li>All contaminated soils and materials shall be excavated and removed from the site and disposed of appropriately to prevent sensitive animal species from becoming exposed to or killed by the effects of crude oil or other chemicals used during construction.</li> </ul> <p><b>MM WAT-4a. HDD Contingency Plan</b> also applies here.</p> <p><b>MM WAT-4b. Strategic Location for Drilling Muds and Cuttings Pit</b> also applies here.</p>		CSLC CSLC
<p><b>TerrBio-2: Temporary or Permanent Impacts Regarding Construction, Operations, and Maintenance Effects on Rare and Special Status Plants</b></p> <p>Upland vegetation removal during onshore pipeline construction, maintenance, and repair activities could result in the loss of special status plants.</p>	Class III	<p><b>AMM TerrBio-2a. Pre-Construction Surveys.</b> The Applicant would conduct pre-construction, in-season surveys according to appropriate survey protocols for special status species, and any federally listed species specified by the USFWS or the CDFG. These surveys would occur before construction or maintenance activities are performed. Special status plant surveys would be performed in accordance with the USFWS, the CDFG, and the California Native Plant Society (CNPS) standard survey protocols.</p> <p>The surveys would be conducted at the appropriate time of year in order to identify the presence or absence of special status plant populations occurring within the Project area, and the results would be mapped for avoidance during construction and maintenance. If listed plants are identified in the construction areas, attempts would be made to salvage plants and replant following the completion of the construction activities. The USFWS and the CDFG would be contacted before any translocation planting activities. All salvaged</p>	Class III	CSLC

**Table 6.1-1 Impacts and Mitigation Measures**

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<p>Federal- and State-listed plants would be replanted following completion of the work activities. Sensitive resources near construction areas would be identified and clearly marked for avoidance. Taking of Federal- or State-listed species would be avoided or would be consistent with appropriate permits and approvals. Additional measures that would be undertaken include the following:</p> <ul style="list-style-type: none"> <li>• Determination of rare species' potential habitat would be conducted by a qualified botanist. Flagging, mapping, and fencing would be established to protect any special status plant species within 200 feet (61 m) of the ROW;</li> <li>• Any rare plant species within the 80-foot (24-m) ROW, work areas, access roads, and staging areas would be flagged, mapped on construction plans, and fenced to protect the area during construction;</li> <li>• An Environmental Monitor would supervise installation of construction fencing, and appropriate buffer distances would be determined. The Monitor would have the authority to require installation of silt fencing in highly sensitive areas or under certain conditions where potential erosion may impact a special status plant species or its habitat; and</li> <li>• If sensitive resources cannot be avoided, no work would be authorized until the appropriate resource agencies (CDFG, USFWS, and NOAA Fisheries) determine that the action would not result in significant biological impacts.</li> </ul>		

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<p><b>AMM TerrBio-2b. Biological Resources Mitigation and Monitoring Plan (BRMIMP).</b> Surveys would be conducted within any areas potentially impacted by Project activities during construction or operation where special status species potentially occur. Surveys would be conducted in consultation and coordination with agencies and according to any existing species-level survey protocol guidelines. Results of the surveys would be used to develop a BRMIMP. The Applicant's proposed mitigation measures to address construction and maintenance effects on special status plant species include implementation of a BRMIMP. It would identify:</p> <ul style="list-style-type: none"> <li>• All biological resources mitigation, monitoring, and compliance conditions specified in any acquired permits for the Project;</li> <li>• All sensitive biological resources to be impacted, avoided, or mitigated by Project construction, operation, and closure;</li> <li>• All required mitigation measures/avoidance strategies for each sensitive biological resource;</li> <li>• All locations, on a map of suitable scale, of laydown areas and areas requiring temporary protection and avoidance during construction;</li> <li>• Pre- and post-construction site photographs of all natural areas disturbed during Project construction activities;</li> <li>• Duration of biological monitoring and a description of monitoring methodologies and</li> </ul>		CSLC



**Table 6.1-1 Impacts and Mitigation Measures**

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<p>frequency;</p> <ul style="list-style-type: none"> <li>• Successful criteria for proposed mitigation;</li> <li>• Remedial measures to be implemented if success criteria are not met; and</li> <li>• A discussion of biological resource-related facility closure measures.</li> </ul> <p>The Applicant's measures for the BRMIMP would include the following:</p> <ul style="list-style-type: none"> <li>• Measures to avoid sensitive wildlife and plant species and habitats during pipeline construction, operations, and maintenance, including restrictions in sensitive coastal areas, mapping, and avoidance of sensitive resources;</li> <li>• Restoration of sensitive vegetation types (coastal and riparian) potentially impacted during pipeline installation or repair, in accordance with other relevant mitigation measures;</li> <li>• Inclusion of measures in the Operation and Maintenance Plan to avoid and minimize impacts on special status wildlife, plant species, bird-nesting areas, and sensitive vegetation types, such as riparian areas, during routine operation or maintenance activities;</li> <li>• Creation of a map of the pipeline route depicting the location of all special status plant species, wildlife species, important nesting areas, and wetlands, to be used during necessary vehicular travel, for pedestrian use,</li> </ul>		

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<p>or during equipment placement, to avoid these resources;</p> <ul style="list-style-type: none"> <li>Prohibition of disturbance to and clearing of coastal, riparian, and wetland vegetation during inspections. Travel and work areas shall be flagged and fenced before repair work to identify and avoid impacts on sensitive habitats as depicted on the pipeline map; and</li> <li>Maintenance of records of mitigation implementation on file at the pipeline maintenance office.</li> </ul> <p><b>AMM TerrBio-2c. Employee Environmental Awareness Program (EEAP).</b> The Applicant would conduct an employee awareness program before groundbreaking to explain the applicable endangered species laws and any endangered species concerns to contractors working in the area. Through the EEAP, all of the Applicant's employees and subcontractors shall be informed regarding the sensitive biological resources potentially occurring in the Project area. The Applicant's EEAP would:</p> <ul style="list-style-type: none"> <li>Discuss the locations and types of sensitive biological resources on the Project site and in adjacent areas;</li> <li>Present the reasons for protecting these resources;</li> <li>Present the meaning of various temporary and permanent habitat protection measures;</li> <li>Describe what to do if previously unidentified sensitive resources are encountered; and</li> </ul>		CSLC

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<ul style="list-style-type: none"> <li>Identify whom to contact if there are further comments and questions regarding the material discussed in the program.</li> </ul> <p>Each participant in the on-site EEAP would sign a statement declaring that he or she understands and would abide by the guidelines set forth in the program materials.</p> <p>In addition, the Applicant would be responsible for ensuring that all Project personnel and subcontractors adhere to the guidelines and restrictions. Additional training would be conducted as needed—including morning “tailgate” sessions—to update crews as they advance into sensitive areas, and to educate new personnel brought on the job during the construction period. Project personnel would receive a hardhat sticker or be issued a card verifying compliance with the above mitigation measures. In addition, a record of all personnel trained during the Project would be maintained and made available for compliance verification.</p> <p><b>AMM TerrBio-2d. Biological Monitoring.</b> The Applicant would use a qualified Biological Monitor to conduct and supervise the EEAP program and to conduct on-site biological monitoring. According to the Applicant, the minimum qualifications of the Biological Monitor would be:</p> <ul style="list-style-type: none"> <li>A bachelor's degree in biological sciences, zoology, botany, ecology, or a closely related field;</li> <li>Three years of experience in field biology;</li> <li>One year of field experience with resources found in or near the Project area; and</li> </ul>		CSLC

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<ul style="list-style-type: none"> <li>Ability to demonstrate the appropriate education and experience for the biological resource tasks that must be addressed during Project construction and operation.</li> </ul> <p>In addition to the Applicant's qualifications for the Biological Monitor, the Biological Monitor would supervise and verify the implementation of the EEAP, the Erosion Control Plan, and the BRMIMP. The Biological Monitor would be present for all water crossings and be responsible for pre-construction surveys, environmental awareness training of construction crews, staking of sensitive resources, on-site monitoring, documentation of violations and compliance, coordination with contract compliance inspectors, and post-construction documentation. The Biological Monitor would be qualified to recognize potential construction effects on these resources. The Biological Monitor would ensure that State and/or Federal wetland protection guidelines are followed, and that an adequate setback of at least 15 feet (4.5 m) (or other distance mandated by the CDFG or the USFWS) is observed at wetland and/or riparian (woody vegetation) edges that provide suitable habitat for special status species.</p> <p><b>AMM TerrBio-2e. Confine Activity to Identified Right-of-Way (ROW).</b> The Applicant would limit all proposed roadway construction to the existing roadway surface wherever special status plant species or habitats occur adjacent to the roadway.</p> <p>In addition, the Applicant would confine</p>		CSLC

**Table 6.1-1 Impacts and Mitigation Measures**

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<p>construction equipment to the roadway surface and associated activities to the 80-foot (24-m) ROW in all areas that support sensitive resources (e.g., near special status species adjacent to the work area), as defined on project maps. In sensitive areas that would be avoided by directional drilling, drill rigs and equipment staging would remain outside sensitive habitats, with an adequate buffer, consistent with established resource agency guidelines to avoid potential adverse effects on the resource. Work area boundaries would be delineated with flagging or other marking to minimize surface disturbance associated with vehicle straying, and to minimize potential for inadvertent worker intrusion into sensitive areas. Special habitat features identified by the Resource Monitor would be avoided, and previously disturbed areas within the Project ROW shall be utilized for stockpiling excavated materials, equipment storage, and vehicle parking. During EEAP training, construction personnel would be informed of the importance of remaining within the designated ROW. The Lead Resource Coordinator, with support from Resource Monitors, as necessary, would ensure that construction equipment and associated activities avoid any disturbance of sensitive resources outside the ROW.</p>		

October 2004

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<p>any trees would have to be removed for pipeline installation;</p> <ul style="list-style-type: none"> <li>• Development and implementation of a Tree Replacement Plan for loss of and/or significant damage to trees; and</li> <li>• Supervision and verification of the implementation of these measures by the Environmental Monitor.</li> </ul> <p><b>MM TerrBio-3c. Riparian Avoidance and Restoration.</b> The Applicant shall avoid, minimize, and compensate for impacts on riparian habitat during construction due to trenching, open cut crossings of waters of the United States, and HDD pit excavation by:</p> <ul style="list-style-type: none"> <li>• Avoiding potential impacts on riparian forest by clearly identifying and marking important areas, boring under waters of the United States where feasible, and identifying any proposed riparian habitat removal (and subsequent restoration) locations;</li> <li>• Consulting with the CDFG for any unavoidable impacts on riparian vegetation, and fencing riparian vegetation adjacent to work areas to prevent impacts;</li> <li>• Preparing and implementing riparian restoration, including replanting and monitoring elements. This includes supervision and verification of implementation of these measures by an approved Environmental Monitor;</li> <li>• Before construction, identifying methods to restore the beds and banks of waters of the</li> </ul>		CSLC

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<p>United States to pre-construction conditions, including appropriate replacement ratios (in accordance with issued permit conditions, or, at a minimum, a 3:1 replacement ratio of habitat acreage and a replacement ratio of at least 1:1 for the number of trees and shrubs present before construction); and</p> <ul style="list-style-type: none"> <li>Identifying restoration methods, including native tree and shrub species matching pre-construction conditions, understory native seed mix composition and application methods, planting methodology, description of monitoring efforts to measure replacement success, and success criteria and contingency measures for off-site habitat creation in case mitigation measures are unsuccessful.</li> </ul>		
<p><b>TerrBio-4: Temporary or Permanent Changes to Wetlands or Waters of the United States During Construction</b></p> <p>Construction, such as trenching, in wetlands or waters of the United States could remove vegetation, disrupt the hydrology of the wetlands within and adjacent to the construction area, or alter the habitat for special status plant species.</p>	Class II	<p><b>MM TerrBio-4a. Avoid, Minimize, or Reduce Impacts on Wetlands.</b> Impacts on wetlands or waters of the United States that provide habitat for special status plant species shall be avoided, minimized, or reduced by at least the following mitigation measures:</p> <ul style="list-style-type: none"> <li>Identifying and marking any wetland areas, including those identified to support special status species, to be avoided during construction and operation activities;</li> <li>Limiting the width of the construction ROW through identified wetlands or waters;</li> <li>Limiting the operation of construction equipment within the wetlands or waters to the greatest extent possible;</li> <li>Limiting grading activities to directly over the</li> </ul>	Class III	CSLC



Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<p>trench area, using low-ground-weight construction equipment, within wetlands;</p> <ul style="list-style-type: none"> <li>• Use prefabricated mats in saturated or standing water wetlands; and</li> <li>• Under consultation and coordination with the USACE, obtaining permits and approval from the USACE to avoid, reduce, or minimize impacts. Further site-specific mitigation measures would be identified and implemented as required by, and in coordination with, regulatory agencies.</li> </ul>		
<p><b>TerrBio-5: Permanent Impact Caused by Noxious Weed Invasion</b> Construction-related disturbance could provide an opportunity and seedbed for the invasion of weeds, which could adversely affect special status plant species or habitats, and upland vegetation.</p>	Class III	<p><b>AMM TerrBio-5a. Weed Management.</b> The Applicant would implement the following measures to prevent the spread of invasive weeds:</p> <ul style="list-style-type: none"> <li>• A noxious weed survey would be performed to identify known locations of noxious weeds or populations currently being managed by the county noxious weed boards;</li> <li>• Invasive exotic plants would be removed from the work area; and</li> <li>• When equipment is mobilized from an area infested with exotic plant species, the tires and undercarriages of all vehicles and construction equipment would be sprayed or washed to prevent the spread of noxious weed species into an unaffected area.</li> </ul> <p>Other elements of the Applicant's Weed Management Program would include procedures to monitor and control the spread of weed populations along the pipeline. The Biological Monitor would implement the program by</p>	Class III	CSLC

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<p>following procedures outlined in the Weed Management Program:</p> <ul style="list-style-type: none"> <li>• Clean all vehicles used in terrestrial construction before operating on and off maintained roads;</li> <li>• Obtain all fill material, soil amendments, and gravel required for construction/restoration activities from a “weed-free” source;</li> <li>• Clear existing vegetation from areas scheduled for immediate construction work (within 10 days), and only for the width needed for active construction activities;</li> <li>• Salvage and replace the upper 12 inches (0.3 m) of topsoil (or less depending on the existing depth of the topsoil) wherever the pipeline is trenched through open land (not including graded roads and road shoulders); and</li> <li>• Revegetate disturbed soils with an appropriate seed mix that does not contain weeds.</li> </ul>		
<p><b>TerrBio-6: Temporary Impacts on Wildlife Habitat Removal</b></p> <p>Construction activities could temporarily remove wildlife habitat, thereby reducing its availability to local wildlife populations.</p>	Class II	<p><b>AMM TerrBio-6a. Minimize Disturbance at Water Crossings.</b> The Applicant would not perform open-trench crossings at any stream, wetland feature, or other waters of the United States unless otherwise identified by a Streambed Alteration Agreement, USACE 404 Permit, and/or any other required permits.</p> <p>In accordance with this, the Applicant may use HDD to avoid affecting waters of the United States or wetland crossings.</p> <p>For HDD in waters of the United States that do not support sensitive wildlife resources within 500 feet (152 m) of the construction site (e.g., at</p>	Class III	CSLC

**Table 6.1-1 Impacts and Mitigation Measures**

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<p>channelized or unvegetated waterways), a qualified Biological Monitor experienced with HDD procedures shall visit the site daily while HDD operations are active, and provide a report to the CSLC. In locations that support sensitive wildlife resources, a qualified Biological Monitor would be on site at all times during HDD activities. Construction activities shall not be conducted within 15 feet (4.5 m) of wetlands or at the top of a bank of waters of the United States unless the CDFG has given prior approval. The 15-foot (4.5-m) setback from riparian vegetation may be modified at specific sites after consultation with the appropriate resource agencies.</p> <p>For crossings of waters of the United States, prerequisites to excavation of the entry pit and exit pit would include the following:</p> <ul style="list-style-type: none"> <li>• The entry pit and exit pit would be located far enough from the top of the bank and at a sufficient elevation to avoid inundation of water, and to minimize excessive migration of groundwater into the entry pit or exit pit;</li> <li>• The proposed excavation for the entry pit and exit pit would be isolated from the surface water via silt fencing to avoid sediment transport; and</li> <li>• The spoils storage resulting from excavation of the entry pit would be isolated via silt fencing to avoid sediment transport. Immediately upon completion of the bore, the following would be promptly undertaken and completed: proper disposal of excess spoils, backfilling</li> </ul>		

[illegible]

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
Direct mortality could also be associated with increased human activity, particularly involving wildlife habitat removal and animal/vehicle collisions.		<ul style="list-style-type: none"> <li>A 20-mile- (32-km-) per-hour speed limit would be enforced within the work areas, except on county roads and highways; and</li> <li>Before pipeline construction activities begin, the vehicle and equipment access routes and work area would be identified.</li> </ul> <p><b>AMM TerrBio-7b. Work Area Enforcement.</b> The Applicant would implement the following:</p> <ul style="list-style-type: none"> <li>No pets or firearms would be permitted on the Project site;</li> <li>Pipeline workers would be informed regarding the importance of maintaining designated protected areas; and</li> <li>In habitats that potentially support listed species or sensitive habitat, orange construction fencing would be installed to delineate the work area in order to prevent equipment from entering adjacent habitat areas.</li> </ul> <p><b>AMM TerrBio-7c. Trash Removal.</b> The Applicant would implement the following:</p> <ul style="list-style-type: none"> <li>All trash would be properly contained, removed from the work site, and disposed of regularly; and</li> <li>All construction debris and trash would be properly disposed of, and food-related trash shall be removed from the site when work activities are complete at the end of each day.</li> </ul>		CSLC
<b>TerrBio-8: Temporary Wildlife Disturbance from Increased Human Presence</b>	Class III	<p>The following also apply here:</p> <p><b>AMM TerrBio-2a. Pre-Construction Surveys.</b></p>	Class III	CSLC

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
Human disturbance during Project construction, operations, and maintenance could temporarily displace wildlife, cause them to avoid preferred habitat areas, or reduce their reproductive success.		<b>AMM TerrBio-2b. Biological Resources Mitigation and Monitoring Plan (BRMIMP).</b> <b>AMM TerrBio-2c. Employee Environmental Awareness Program (EEAP).</b> <b>AMM TerrBio-2d. Biological Monitoring.</b> <b>AMM TerrBio-2e. Confine Activity to Identified Right-of-Way (ROW).</b> <b>MM TerrBio-9c. Protect Specified Bird Species.</b>		CSLC  CSLC  CSLC CSLC  CSLC
<b>TerrBio-9: Temporary or Permanent Construction Impacts on Sensitive Species and/or Habitats</b> Construction impacts could harass species, which could result in a take of an endangered species, causing a permanent impact.	Class II	<b>MM TerrBio-9a. Establish Buffer Zones.</b> The specific buffer zone distance shall be determined by the appropriate resource agencies (the CDFG and the USFWS). The Applicant's Biological Monitors shall: <ul style="list-style-type: none"> <li>• Locate and stake identified sensitive resources before construction activities begin in specified segments; and</li> <li>• Inspect all areas with sensitive resources before construction to ensure that barrier fencing, stakes, and required setback buffers are maintained.</li> </ul> <b>MM TerrBio-9b. Protect Special Status Wildlife.</b> Where construction occurs within or near known or potential special status species habitat, the Applicant shall perform the actions defined in the following paragraphs. <b>MM TerrBio-9c. Protect Specified Bird Species.</b> Where construction is proposed to occur near riparian or marsh habitats that support special status bird species, the Applicant shall limit construction periods to times outside the respective breeding season of the affected	Class III	CSLC          CSLC   CSLC

**Table 6.1-1 Impacts and Mitigation Measures**

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		species through the following:		
		<p>The Applicant shall avoid disturbance of active raptor nests (osprey, Cooper's hawk, ferruginous hawk, and American peregrine falcon) at all locations. Pre-construction surveys shall be performed in all areas to identify potential raptor nesting sites within or near the ROW. No pre-construction surveys shall be required if construction activities occur only during the non-breeding season (September 1 through January 31). However, if construction activities are scheduled to occur during the breeding season (February 1 through August 31), pre-construction surveys of all potentially active nest sites within 500 feet (152 m) of the construction corridor shall be conducted in areas that may have nesting raptors, including ground-nesting raptor species such as northern harrier and short-eared owl. If surveys indicate that nests are inactive or potential habitat is unoccupied during the construction period, no further mitigation shall be required. If active nests are found, a 500-foot (152-m) no-disturbance buffer shall be established around the active nest(s). Evaluations and buffer adjustments shall be conducted in consultation with the local CDFG representative. The construction area within the designated buffer shall be identified in the field by staking and flagging;</p>		

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<ul style="list-style-type: none"> <li>If construction activities were to occur within agricultural fields of the Oxnard Plain during winter, surveys would have to be completed to identify over-wintering birds that may occur along the pipeline routes. Burrowing owls would be of particular concern because they over-winter in agricultural fields near the Reliant Energy Ormond Beach Generating Station (California Department of Fish and Game 2004); and</li> <li>If avoidance of sensitive wildlife species habitat is not feasible (e.g., by modifying the route or boring), the Applicant shall develop appropriate mitigation in consultation with the resource agencies (the CDFG and the USFWS). No construction activity shall be permitted until the applicable resource agencies determine that the proposed mitigation (in the Biological Opinion) would result in less than significant impacts on the affected species.</li> </ul>		
<b>CULTURAL RESOURCES</b>				
<b>Offshore</b>				
<b>Cultural-1: Marine Archaeological Sites and Artifacts</b> The Project could impact cultural resources in offshore Project areas.	Class III	<b>AMM Cul-1a. Archaeological surveys</b> for the purpose of ground truthing would be performed to confirm the location of and gather further information on the submerged objects determined to be subject to potential impact from the Project. Shipwrecks or other underwater cultural resources identified as culturally significant would be avoided. Pipeline-laying barges would use dynamic positioning rather	Class III	USCG/CSLC



Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		than anchoring at locations along the route to avoid impacts on potential cultural resources.		
<b>Onshore/Offshore</b>				
<b>Cultural-2: Native American Values</b> The Project could impact resources that are of value to Native American culture and heritage, particularly descendents of the Ventura Chumash.	Class III	<b>AMM Cul-2a. Site Avoidance.</b> The Applicant would avoid identified sites to the maximum feasible extent, conduct monitoring, and adhere to State of California burial remains legislation as well as NAGPRA. <b>AMM Cul-2b. Native American Values.</b> Additional mitigation measures for impacts on Native American values would include the following: <ul style="list-style-type: none"> <li>• Native American monitoring of Project-related activities that result in disturbance of surface and subsurface components of archaeological sites;</li> <li>• Curation of artifacts recovered from archaeological sites at a qualified facility that allows access to Native Americans;</li> <li>• Implementation of procedures specified in CEQA 15064.5(e) and Health and Safety Code Section 7050.5 and Public Resources Code 5097.98 if human remains are discovered in the Project area; and</li> <li>• Avoidance of adverse impacts to oak trees and other plants and animals of local Native American concern. Impacts to native plants would be minimized by allowing collection of herbs before construction and by relocating and replanting grasses; and if resource location is unavoidable during construction or maintenance of the FSRU and pipeline, further</li> </ul>	Class III	USCG/CSLC  USCG/CSLC

*Cabrillo Port Liquefied Natural Gas Deepwater Port  
DRAFT EIS/EIR*

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<p><b>AMM Cul-3c. Native American Representative.</b> Surveys within the City of Oxnard would include the presence of a Native American Representative as mandated by City guidelines. If avoidance of identified resources through pipeline realignment is not feasible, additional archaeological investigations to evaluate the nature, extent, and integrity of the resources would be implemented and would include a program of data recovery to reduce impacts.</p> <p><b>AMM Cul-3d. Survey Areas.</b> Areas to be surveyed on the Center Road Pipeline route prior to issuance of Project permits include the following:</p> <ul style="list-style-type: none"> <li>Coastal dune and adjacent areas about 1.5 miles (2.4 km) from Milepost (MP) 0.0 to Hueneme Road;</li> </ul> <p>Approximately 2 miles (3.2 km) from Hueneme Road north to Pleasant Valley Road;</p> <ul style="list-style-type: none"> <li>Approximately 2 miles (3.2 km) from Pleasant Valley Road to the intersection of Del Norte Boulevard and Sturgis Road;</li> <li>The area of the Main Line Block Valve Safety;</li> <li>Approximately 1 mile (1.6 km) along Sturgis Road between Del Norte Boulevard and Rice Road;</li> <li>Approximately 1.5 miles (2.4 km) from Beardsley Road to Santa Clara Road;</li> </ul>		<p>CSLC</p> <p>CSLC</p>

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<ul style="list-style-type: none"> <li>Approximately 1 mile (1.6 km) from Los Angeles Avenue north to the intersection of Los Angeles Avenue and Las Vista Road; and</li> <li>0.25 mile (0.4 km) west from the intersection of La Vista Road and Center Road including unsurveyed area of the Center Road Valve Station.</li> </ul> <p><b>AMM Cul-3e. Pedestrian Survey.</b> In the Line 225 Pipeline Loop area, the pedestrian survey would be conducted in the following areas: From about 500 feet (152 m) east of MP 2 and extending about 0.4 mile (0.6 km) along an unnamed drainage route;</p> <ul style="list-style-type: none"> <li>Along both sides of the Santa Clara River extending from both banks of the river about 328 feet (100 m);</li> <li>From MP 7 to its endpoint at MP 7.71; and</li> <li>Unsurveyed parts of the Quigley and Honor Ranch Valve Stations.</li> </ul> <p><b>AMM Cul-3f. Monitoring.</b> A qualified archaeologist would monitor all construction within 328 feet (100 m) of archaeological sites and areas with high potential for the occurrence of sites buried under alluvium. If sites are identified during the monitoring phase of construction, the archaeologist will be empowered to stop all construction activities in the vicinity of the find and evaluate the resource. Such evaluation would require a Phase 2 subsurface testing and evaluation program. If remains prove to be significant and site avoidance cannot be implemented through Project redesign, a Phase 3 data recovery</p>		<p>CSLC</p> <p>CSLC</p>

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		program would be implemented to mitigate impacts.		
		<b>AMM Cul-3g. Cultural Resources Management Plan.</b> To ensure compliance with mitigation measures, a cultural resources management plan (CRMP) would be developed pursuant to all relevant local, State, and Federal cultural resources guidelines and criteria.		CSLC
<b>GEOLOGY</b>				
<b>GEO-1: Increased Erosion, Differential Compaction, or Scour</b> Construction activities could temporarily worsen existing unfavorable geologic conditions.	Class II	<p><b>AMM GEO-1a. Drilling Location.</b> For HDD drilling at the shore crossing, the entry and exit points of the drilling would be outside of the area affected by normal storms and the pipeline would be buried deep enough to prevent surfacing due to storm erosion.</p> <p><b>MM GEO-1b. Backfilling and Compaction.</b> Proper backfilling and compaction, as defined by standard construction practices, comparable to existing conditions shall be done to prevent preferential flow paths, erosion, or subsidence.</p> <p><b>MM GEO-1c. Design and Monitoring.</b> Proper design and monitoring of the drilling mud properties, and sufficient burial depth, shall be conducted to minimize the probability of the occurrence of a release of drilling muds. Procedures shall be developed to mitigate any release of drilling muds that may occur and shall be documented in the HDD Contingency Plan. The Plan shall be submitted to USCG and CSLC for review and approval at least 60 days prior to commencement of HDD operations.</p>	Class III	<p>CSLC</p> <p>CSLC</p> <p>CSLC</p>

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<p><b>MM GEO-1d. Trenching and Construction.</b> During trenching and construction activities, erosion control measures, such as straw bails, shall be implemented to keep water from entering the trench.</p> <p><b>MM GEO-1e. Compacting and Grading.</b> Following installation of the pipeline system, the trench shall be compacted and graded to pre-existing contours and revegetated/restored to pre-existing conditions.</p>		<p>CSLC</p> <p>CSLC</p>
<p><b>GEO-2: Disturbing or Destroying Paleontological Resources</b> Construction activities could disturb or destroy paleontological resources; such impacts are typically permanent</p>	Class II	<p><b>MM GEO-2a: Inspection.</b> A paleontological inspection shall be completed prior to excavating in the suspect areas, between Center Road Pipeline MP 12.6 and MP 14.3 in Beardsley Wash, and Line 225 Pipeline Loop from Loop MP 0.0 to MP 3.5 and MP 6.7 and MP 7.7. Paleontological monitoring of excavations in these areas shall be undertaken by a qualified paleontologist based on the findings of the inspection. The paleontologist shall provide education and training of construction workers about potential paleontological resources that may be discovered and, subject to prior approval by the CSLC, he/she shall have the ability to stop construction if potentially significant resources are identified and threatened by the Project. All specimens collected from public land shall be deposited at a curating institute such as the University of California.</p>	Class III	CSLC
<p><b>GEO-3: Damage Due to Direct Rupture along Fault Lines</b> Damage to pipelines or other facilities could occur due to direct rupture</p>	Class II	<p><b>AMM GEO-3a. Avoidance.</b> The primary mitigation measure shall be to avoid, where possible, crossing known active fault zones. The Project has avoided known fault crossings, but</p>	Class III	CSLC

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
(ground offset) along fault lines		this is a seismically active area and the pipeline route likely crosses several buried faults as discussed in Section 4.11.1.2, both on and		
		<p>offshore.</p> <p><b>AMM GEO-3b. Pipeline Flexibility.</b> The Applicant shall install the offshore pipeline directly on the seabed surface. This shall allow enhanced flexibility of the pipeline, when compared to a buried pipeline, to deal with movement caused by fault rupture. Under normal conditions (not due to mass movement) some sediment may cover the pipeline but this minor sediment should not affect the flexibility of the pipeline.</p> <p><b>MM GEO-3c. Geotechnical Studies.</b> For suspected onshore pipeline crossings (discussed in Section 4.11.1.2) of faults the Applicant shall complete final geotechnical studies at suspected active fault crossings to accurately define the fault plane location, orientation, and direction of anticipated offset. It shall include the magnitude of the anticipated offset at the fault locations. This information shall be used to refine fault crossing design parameters. It is best to orient the pipe at fault crossings to produce tension in the pipe if there is ground rupture along the fault. Compression of the pipe is more likely to cause pipe rupture than tension. This site-specific seismic hazard study shall be completed and approved by CSLC and USCG prior to construction.</p>		<p>USCG/CSLC</p> <p>USCG/CSLC</p>

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<b>MM GEO-3d. Design and Operational Procedures.</b> The above-mentioned Guidelines for the Design of Buried Steel Pipe and Guidelines for the Seismic Design of Oil and Gas Pipeline Systems shall be followed. The final pipeline design shall include evaluation of, but not limited to, engineered backfill, thicker wall pipe, shutoff valves placed on either side of fault crossings, and seismic switches/alarms.		USCG/CSLC
<b>GEO-4: Damage to Pipelines and Associated Facilities from Surface Shaking</b> Ground shaking from earthquakes, which is of a transitory and sporadic nature, could damage pipelines or associated facilities.	Class II	<b>MM GEO-4: Design for Ground Shaking.</b> Proper seismic design will allow pipelines and other structures to withstand intense ground shaking without collapsing. These designs shall include the Guidelines for the Design of Buried Steel Pipe, Guidelines for the Seismic Design of Oil and Gas Pipeline Systems, and the American Society of Mechanical Engineers (ASME 2001) Managing System Integrity of Gas Pipelines.	Class III	CSLC
<b>GEO-5: Damage to Pipelines from Landslides, Liquefaction, Subsidence, Sand Migration, or Turbidity Currents</b> Mass movement, which is of a transitory and sporadic nature, could damage pipelines or structures	Class II	<b>AMM GEO-5a. Avoid Areas of Mass Movement.</b> To the extent possible, areas of soil susceptible to mass movement and areas of steeper slopes shall be avoided by the Applicant. The pipeline shall be designed to withstand potential pressures due to mass movement and to allow flexibility should movement occur.	Class III	USCG
<b>GEO-6: Damage to Pipelines from Tsunamis</b> Tsunamis, which are transitory and sporadic in nature, could damage near-shore pipelines or facilities due to the typical force and erosive nature of these storms.	Class III	<b>MM GEO-6: Pipeline Burial.</b> The pipeline at the shore crossing would be buried deeply enough to avoid potential damage from tsunamis.	Class III	USCG/CSLC



[illegible]

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<p>Applicant's Project vessel(s) would have sufficient quantities of absorbent materials stored onboard and accessible as necessary to contain and clean up any small spill or sheen on the water surface.</p> <p><b>MM HAZ-1c. Material Safety Data Sheets.</b> MSDSs shall be available for all hazardous material stored onboard and accessible to the crew.</p>		USCG/CSLC
<p><b>HAZMAT-2: Potential Hazardous Materials Spills due to Offshore Operations</b></p> <p>Improper handling of hazardous materials or leaks in containers on the FSRU could temporarily result in a release to the marine environment or exposure of workers or the public.</p>	Class III	<p><b>AMM HAZ-2a. Manage Used Oil in Accordance with USEPA and State Requirements.</b> The Applicant would return used oil to shore in the same labeled and DOT-approved containers used to provide the replacement oil, which would ensure that appropriate containers would be used for all oil in storage and in transport. Used oil would be managed, disposed of, or recycled in accordance with USEPA and State of California requirements. All oil would be managed in accordance with the facility-specific SPCC plan, which would ensure that adequate containment (e.g., bermed areas or spill pallets for drum storage) would be provided to contain accidental spills, that adequate spill response equipment and absorbents will be readily available, and that personnel will be properly trained in how to control and clean up any spills.</p> <p><b>AMM HAZ-2b. Storage of Hazardous Materials.</b> The Applicant would store paint, solvents, urea, and any other hazardous materials in the manner specified by the manufacturer and in Federal regulations and in</p>	Class III	<p>USCG/CSLC</p> <p>USCG/CSLC</p>

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		accordance with Federal regulations that require compliance with nationally and internationally recognized codes and standards.		
<p><b>HAZMAT-3: Release of Existing Contaminants from Sediments, Soils, or Groundwater</b></p> <p>Construction activities could unearth existing contaminated sites onshore and offshore, causing potential temporary health hazards to construction workers, the public, and marine and terrestrial ecology.</p>	Class II	<p><b>AMM HAZ-3a. Follow Standard Industry Practices.</b> The Applicant would follow standard industry practices and OSHA regulations to prevent unauthorized people from having access to the construction area, including fencing or other temporary barriers. This would prevent members of the public from coming into direct contact with these materials or contaminants on the Project site.</p> <p><b>AMM HAZ-3b. Provide OSHA Training.</b> The Applicant would handle unexpected discoveries of buried hazardous materials or contaminated soil or groundwater, by requiring that the construction contractor have workers available who are trained in accordance with OSHA Hazardous Waste Operations (HAZWOPER) requirements contained in 29 CFR 1910.120, which would ensure that workers have been trained to recognize these potential hazards and respond appropriately.</p> <p><b>AMM HAZ-3c. Prepare a Project-specific Health and Safety Plan.</b> A Project-specific health and safety plan would be prepared that details steps to be taken should discolored soil or unusual odors be detected. If discolored soil or odors are encountered, work in the area would cease and the Project Safety Officer would be notified. The cause of the discoloration and/or odor would be determined and, if necessary, any contamination would be removed before work in</p>	Class III	<p>CSLC</p> <p>CSLC</p> <p>CSLC</p>

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		the area resumes. Personnel working in identified contaminated sites must be trained for handling hazardous wastes per 29 CFR 1910.120.		
		<p><b>AMM HAZ-3d. Prevent Migration of Contaminated Soils.</b> If buried hazardous materials or contamination are discovered, the Applicant would follow standard industry practices and OSHA regulations to prevent migration of contaminated soils or other materials off site. This would include, for example, covering an area of contaminated soil with tarps to prevent contaminated dust from blowing off site during windy conditions or providing containment to collect and store stormwater that may have become contaminated.</p> <p><b>MM HAZ-3e. Cleanup of Soil and Groundwater.</b> Soil contamination in OU 2 immediately adjacent to or within the proposed pipeline route is expected to be cleaned up by 2006 and certified as such by DTSC. The Applicant shall coordinate with DTSC to ensure that OU 2 has been certified as clean, to identify status of site-wide groundwater remediation for OU 7, and to determine whether additional surveys or screening level sampling should be conducted for areas to be disturbed by pipeline construction prior to any construction. To confirm that the appropriate level of coordination occurs with DTSC, the applicant shall submit a letter detailing the status of the site and any specific measures that are to be conducted to USCG and CSLC, with a copy to DTSC, 60 days prior to</p>		<p>CSLC</p> <p>CSLC</p>

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		initiating construction.		
<p><b>HAZMAT-4:</b> <i>Release of Methane or Other Flammable or Toxic Gases from Nearby Landfills</i></p> <p>Construction in the pipeline right-of-way (ROW) could release methane or other flammable or toxic gases from nearby landfills, causing potential health hazards to construction workers and the public; however, this potential impact is unlikely.</p>	Class III	None		
<p><b>HAZMAT-5:</b> <i>Potential Hazardous Materials Spills due to Onshore Construction or Transportation</i></p> <p>Activities associated with onshore construction and drilling could result in an accidental spill of hazardous materials or oil.</p>	Class II	<p><b>AMM HAZ-5a. Spill Prevention Countermeasure and Control Plan.</b> An SPCC Plan would be prepared and approved prior to initiation of HDD operations. Before drilling begins, site workers would be trained to recognize and respond to spills in accordance with the SPCC Plan and to notify regulatory authorities. Construction crews would have an emergency spill kit containing sorbent pads and booms; equipment such as shovels, etc.; personal protective equipment; and emergency response guidance. The Applicant would submit the SPCC Plan to USCG and CSLC at least 60 days prior to beginning construction.</p> <p><b>AMM HAZ-5b. Use Best Management Practices.</b> The Applicant would maintain hazardous materials at the staging areas in proper storage containers and with sufficient secondary containment in accordance with best management practices and DOT, CalOSHA, and CalEPA requirements. Hazardous materials stored temporarily in staging areas would be</p>	Class III	<p>CSLC</p> <p>CSLC</p>

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<p>stored on pallets within fenced and secured areas and protected from exposure to weather. Incompatible materials would be stored separately as appropriate. In addition, the Applicant would dispose of all hazardous wastes generated through construction or maintenance activities according to appropriate Federal and State regulations, depending on the type of waste generated.</p> <p><b>AMM HAZ-5c. Appropriate Disposal.</b> The Applicant would place absorbent material or drip pans beneath vehicles and equipment before maintenance or refueling. Any fluids drained from equipment would be collected in leak-proof containers and taken to an appropriate disposal or recycling facility.</p> <p><b>AMM HAZ-5d. Maintain Spill Kits.</b> The Applicant would keep a proper spill kit accessible at each construction location.</p> <p><b>MM HAZ-5e. Maintain Equipment.</b> The Applicant shall maintain equipment in operating condition to reduce the likelihood of line breaks and leakage. Any vehicles with chronic or continuous leaks shall be removed from the construction site and repaired before being returned to operation.</p>		<p>CSLC</p> <p>CSLC</p> <p>CSLC</p>
<p><b>HAZMAT-6: Accidental Release of Drilling Muds During HDD</b></p> <p>HDD could result in a release of drilling muds, a release of drilling fluids from the borehole at a fracture in the ground.</p>	Class II	<p><b>MM HAZ-6a:</b> Implementation of mitigation measures for Impact WAT-4 ("Water Quality" Section 4.19) would reduce the impact of any release of drilling muds that occurred; therefore, impacts from releases of drilling muds during HDD would be less than significant.</p>	Class III	CSLC

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
<b>HAZMAT-7: Potential Hazardous Materials Spills due to Onshore Operations</b> During onshore construction, operations, and maintenance activities, accidents or improper handling, transport, and storage of hazardous materials could result in spills, exposing workers or the public to hazardous materials.	Class III	<b>AMM HAZ-7a.</b> Implementation of the mitigation measures for HAZMAT-5a through 5f would reduce the potential of a spill and would reduce the potential impact of any spill that occurred.	Class III	CSLC
<b>HAZMAT-8: Potential Disturbance or Detonation of UXO due to Onshore or Offshore Construction</b> Offshore pipeline installation and onshore pipeline construction activities could encounter UXO, causing an explosion that could result in serious injuries or fatalities to workers or the public, and—for offshore locations—serious injuries or fatalities to marine life from subsurface blast pressures.	Class II	<b>MM HAZ-8a. Surveys.</b> For offshore pipeline installation within and near the Pacific Missile Range, the Applicant shall conduct surveys for visible and shallowly buried UXO that might be disturbed by pipeline installation. <b>MM HAZ-8b. Coordination with the California Department of Toxic Substances Control.</b> For parts of the Loop 225 Pipeline route on or near the Whittaker-Bermite site, the Applicant shall coordinate with the DTSC before any surveys or construction activities to determine whether additional UXO surveys would be warranted and shall ensure that those surveys are conducted if deemed necessary. The Applicant shall submit a letter to CSLC and USCG with a copy to DTSC documenting the outcome of coordination and the status of follow-up 60 days prior to beginning construction.	Class III	USCG/CSLC  CSLC
<b>LAND USE</b>				
<b>LU-1: Changes in Land Use</b> Implementation of the Project would change an existing land use.	Class III	<b>AMM AGR-1a. Compensation</b> also applies here. <b>MM AGR-1b. Compensation for Temporary</b>		CSLC  CSLC

*Cabrillo Port Liquefied Natural Gas Deepwater Port  
DRAFT EIS/EIR*



Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<ul style="list-style-type: none"> <li>construction equipment and materials, including spoil pile, remain within the construction work area.</li> <li>Limit the construction ROW to the existing permanent right-of way, where feasible.</li> </ul> <p>Maintain a minimum of 25 feet (7.6 m) between the residence and the construction work area, where possible.</p> <p><b>MM LU-2c. Maintain minimum distance to residences.</b> The Applicant shall further reduce disruption for residences by maintaining a minimum of 50 feet (15.2 m) between the residence and the construction work area, where possible.</p>		CSLC
<b>NOISE</b>				
<b>Offshore</b>				
<p><b>NOI-1: Noise Generated During the Installation of the Floating Storage and Regasification Unit (FSRU) and Offshore Pipeline</b></p> <p>Noise generated by vessels or equipment during installation of the mooring system, FSRU, and offshore pipeline could result in temporary increases in noise levels in the area, which could impact sensitive noise receptors such as recreational boaters or fishers.</p>	Class II	<p><b>MM NOI-1a. Efficient Equipment Usage.</b> The Applicant shall:</p> <ul style="list-style-type: none"> <li>Operate construction equipment only on an as-needed basis during this period, and to maintain it to the manufacturer's specifications.</li> <li>Ensure that equipment engine covers are in place and mufflers shall be in good working condition for the installation of the mooring system, FSRU, and offshore pipeline.</li> </ul>	Class III	USCG

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
<b>NOI-2: Long-Term Noise Generated During FSRU Operations</b> Recreational boaters and fishers at certain distances from the facility could hear noise generated by FSRU operations over the long-term.	Class II	<b>AMM NOI-2a: Silencers and Shielding.</b> The Applicant shall use silencers and shielding on equipment on the FSRU to reduce noise emissions.	Class III	USCG
<b>NOI-3: Temporary Noise Generated by Support Vessels During Offshore Operations</b> Tankers, shuttle vessels, or helicopters could temporarily increase noise levels for sensitive receptors, such as recreational boaters and fishers.	Class II	<b>MM NOI-3a. Limited Trips.</b> The Applicant shall limit the number of trips by utilizing the full-capacity shuttles as much as possible. <b>MM NOI-3b. Daytime Operations.</b> The Applicant shall operate shuttles and helicopters during daytime hours, except during emergencies.	Class III	USCG
<b>Onshore</b>				
<b>NOI-4: Temporary Noise Generated During Horizontal Directional Drilling (HDD)</b> HDD could temporarily increase noise levels for sensitive receptors. Noise levels may temporarily exceed county and/or city noise ordinances or permit conditions (Class II).	Class II	<b>AMM NOI-4a. Monitor.</b> The work area would be monitored for noise levels. <b>AMM NOI-4b. Enclose power unit.</b> The drilling rig power unit would be enclosed. <b>AMM NOI-4c. Noise Barriers.</b> The drilling rig would be partially enclosed or noise barriers would be placed around it. <b>AMM NOI-4d. Enclose mud pumps and engines.</b> The mud pumps and associated engines would be partially or totally enclosed. <b>AMM NOI-4e. Enclose generator sets.</b> Generator sets would be totally enclosed or acoustically packaged generator sets would be used. <b>AMM NOI-4f. Partially enclose mud mixing.</b> Mud mixing and cleaning equipment would be partially enclosed or noise barriers would be	Class III	CSLC  CSLC  CSLC  CSLC  CSLC

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<p>placed around this equipment.</p> <p><b>AMM NOI-4g. Provide engine compartment treatments.</b> Engine compartment treatments would be provided for mobile cranes and boom trucks.</p> <p><b>AMM NOI-4h. Modify backup alarms.</b> Backup alarms on mobile equipment would be modified.</p> <p><b>AMM NOI-4i. Orient loading bins.</b> Loading bins would be oriented to minimize noise impacts on adjacent areas.</p> <p><b>AMM NOI-4j. Restrict use of mobile equipment.</b> Use of mobile equipment would be restricted during nighttime hours.</p> <p><b>AMM NOI-4k. Enclose light set engines.</b> Engines for the light sets would be totally enclosed.</p> <p><b>AMM NOI-4l. Temporary hay bales as noise barriers.</b> Hay bales would be placed on site as a temporary noise barrier.</p> <p><b>AMM NOI-4m. Place silencers on all engines.</b> Silencers on all engines would be placed on all equipment where possible.</p> <p>Mitigation Measures for Impact NOI-4: Temporary Noise Generated During Horizontal Directional Drilling</p> <p><b>MM NOI-4n. Use noise blankets.</b> During Project construction noise blankets shall be used to fully enclose equipment associated with tunneling, if residences are located within 2,000 feet (610 m) and work occurs after 6 p.m.</p>		<p>CSLC</p> <p>CSLC</p> <p>CSLC</p> <p>CSLC</p> <p>CSLC</p> <p>CSLC</p> <p>CSLC</p>

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<p><b>MM NOI-4o. Prohibit construction work near residences.</b> Construction would be limited to those times allowed under local noise ordinances.</p> <p><b>MM NOI-4p. Limit heavy equipment activity near residences.</b> Heavy equipment activity adjacent to residences shall be limited to the shortest possible period required to complete pipeline installation.</p> <p><b>MM NOI-4q. Cover the equipment engine.</b> The equipment engine shall be covered and the Applicant shall ensure that mufflers are in good working condition.</p>		<p>CSLC</p> <p>CSLC</p> <p>CSLC</p>
<p><b>NOI-5: Noise Generated During Construction of the Onshore Pipeline</b> Site preparation, pipeline installation, and construction of aboveground facilities could temporarily increase noise levels for sensitive receptors, such as schools or residences. Noise levels may exceed county and/or city noise ordinances or permit conditions during the installation of the onshore pipeline and associated structures.</p>	Class II	<p><b>MM NOI-5a. Care of Equipment.</b> The equipment engine shall be covered and the Applicant shall ensure that mufflers are in good working condition.</p> <p><b>MM NOI-5b. Restricted Work Hours.</b> Work hours shall be restricted for all construction activities involving motorized equipment from 7 a.m. to 7 p.m. Monday through Saturday.</p> <p><b>MM NOI-5c. Post Signs.</b> The Applicant shall post signs along the construction right-of-way with approximate schedule and contact information.</p> <p><b>MM NOI-5d. Equipment Location.</b> The Applicant shall locate stationary equipment, such as compressors and welding machines, away from the noise receptors to the extent practicable.</p>	Class III	<p>CSLC</p> <p>CSLC</p> <p>CSLC</p> <p>CSLC</p>
<p><b>NOI-6: Noise Generated by Traveling to the Construction Site</b></p>	Class III	None	Class III	

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
Additional vehicular traffic carrying workers, equipment, and materials to the construction sites could temporarily increase noise levels for residences, schools, places of worships, or hospitals.				
<b>NOI-7: Noise Generated During Operations Onshore</b> Operations of the aboveground facilities may exceed county and/or city noise ordinances or permit conditions for the long-term	Class II	<b>MM NOI-5a – 5d Care of Equipment, Restricted Work Hours, Posting Signs, Equipment Location</b> shall be applied to noise generated during onshore operations.	Class III	CSLC
<b>RECREATION</b>				
<b>Offshore</b>				
<b>REC-1: Temporary Restrictions on Offshore Recreational Fishing During Construction</b> Construction activities would temporarily restrict recreational marine fishing	Class III	None		
<b>REC-2: Restricted Recreational Fishing Due to Safety/Security Zone</b> Operational activities could restrict recreational fishing and boating because of the creation of a 1,640-foot (500 m) safety/security zone around the FSRU and LNG vessels.	Class III	<b>AMM REC-2a. Advance Notice.</b> The applicant would provide a two-day advance notice of LNG carriers scheduled for transit at local ports.		USCG
<b>REC-3: Alteration of the Offshore Recreational Experience During Operations</b> The presence of the Project would alter	Class I	No maximum feasible mitigation measures available to reduce significant impact.	Class I	

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
the recreational experience of recreational boaters, including visitors on whale-watching trips and other visitors to the CINP.				
<b>Onshore</b>				
<b>REC-4: Temporary Restriction and Deterrence of Recreational Activities at Ormond Beach During Construction</b> Construction activities could temporarily restrict fishing, surfing, swimming, beachcombing, and other recreation at Ormond Beach, at other beaches, or in the ocean because of the noise, dust, and light generated during construction of the HDD exit point and the Ormond Beach Metering Station.	Class III	<b>MM REC-4a: Parking and Access Plan.</b> The Applicant shall ensure that all construction-related parking would be restricted to the Reliant site and would not restrict beach access parking.	Class III	CSLC
<b>REC-5: Temporary Deterrence of Park Use Due to Traffic Congestion</b> Construction activities could temporarily increase traffic congestion in the general area of parks in the vicinity of pipeline construction.	Class III	<b>AMM REC-5a: Staging Area Locations.</b> Staging areas would be located at least 1 mile (1.6 km) away from park and recreation areas. <b>MM Trans-1a</b> also applies here.	Class III	CSLC
<b>REC-6: Temporary Closure of Recreation Trails</b> Construction activities would temporarily close multi-use trails along the South Fork Santa Clara River (crossed during construction of the Line 225 Pipeline Loop).	Class III	<b>MM REC-6a. Signage and Information.</b> Signs shall be posted and information regarding the trail closures disseminated to the public that states how long the trail will be closed, when it will be restored, and describes alternate routes. <b>MM REC-6b. Trail Restoration.</b> The Applicant shall restore the multi-use trail along the south fork of the Santa Clara River to its original condition before construction.	Class III	CSLC  CSLC

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
<b>SOCIOECONOMICS</b>				
<b>Socio-1: Small Increased Demand for Public Services</b> The Project would cause a slight increased demand for public services during construction and operations	Class III	None		
<b>Socio-2: Increased Demand for Housing</b> The influx of non-local workers could reduce the availability of accommodations in the Project area, particularly among low-cost categories.	Class III	None		
<b>Socio-3: Temporary Disruption of Onshore Commercial and Tourist Activities</b> Construction activities could disrupt access to commercial and tourist establishments and events, or deter attendance.	Class III	<b>AMM Socio-3a: Scheduling to avoid impacts to tourism.</b> Construction would be scheduled through heavily traveled routes around special events, such as the Oxnard Strawberry Festival in May or Six Flags Magic Mountain during peak summer months, to avoid impacts to tourism.	Class III	CSLC
<b>Socio-4: Temporary Disruption of Local Businesses During Onshore Pipeline Construction</b> Access to businesses along the right-of-way, particularly roadside produce stands, may be reduced during onshore pipeline construction.	Class III	<b>AMM Socio-4a: Maintain Access.</b> Access to businesses, including roadside produce stands, would be maintained at all times.	Class III	CSLC
<b>Socio-5: Increase in Tax Revenue from Construction</b> Construction would result in a beneficial impact on local tax revenue.	Class IV	None		

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
<b>Socio-6: Increase in Tax Revenue during Operations</b> Operations would result in a beneficial impact on local tax revenue.	Class IV	None		
<b>Socio-7: Decrease in Catch Revenues for Commercial Fisheries</b> The long-term and temporary exclusion of commercial fishers from fishing grounds could decrease catch revenues for commercial fisheries.	Class II	<b>AMM Socio-7a. Compensation for Lost Gear.</b> As a member of the Joint Oil/Fisheries Liaison Office fishing caucus, the Applicant would negotiate mitigation for impacts on fishers, according to the existing guidelines for lost or damaged gear. <b>MM Socio-7b: Arbitration.</b> If there is a complaint by a fisher related to impacts from the Project, a mutually agreed-upon settlement shall be reached between the Applicant and injured party. If a settlement cannot be reached through voluntary negotiation that is acceptable to both parties, dispute resolution shall be conducted by a mutually agreed-upon arbitrator. The arbitrator shall be compensated by the Applicant. An arbitrator shall become involved if the voluntary negotiation is not concluded within three months.	Class III	USCG/CSLC  USCG/CSLC
<b>Socio-8: Increase in Regional Fishing Pressure</b> The permanent exclusion of commercial fishing from fishing grounds could increase fishing pressure in other areas or reduce the catch, resulting in negative economic impacts.	Class III	None	Class III	
<b>Socio-9: Decreased Commercial Fisheries Revenues</b> The loss of commercial fishing gear	Class II	The following also apply here: <b>AMM MT-1a: Notice to Mariners</b> <b>AMM MT-1b: Safety Boat Warnings</b>		USCG/CSLC USCG/CSLC



Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
from pipelines and supply boat traffic could decrease commercial fisheries revenues		<b>AMM MT-1c: Automatic Identification System</b> <b>MM MT-1d: Notices to Mariners</b> <b>MM MT-1e: Securite Broadcasts</b> <b>MM MT-1f: Light and Sound Signals</b> <b>MM MT-1g: Safety Boat</b> <b>AMM Socio-7a: Compensation for Lost Gear</b> <b>MM Socio-7b: Arbitration</b>		USCG/CSLC  USCG/CSLC USCG/CSLC USCG/CSLC USCG/CSLC USCG/CSLC
<b>TRANSPORTATION</b>				
<b>Trans 1: Temporary Traffic Lane Closures.</b> The Project could cause temporary lane closures, disrupting local traffic flow.  +	Class II	<b>MM Trans-1a. Traffic Control Plans.</b> Two traffic control plans, prepared by a registered professional engineer in accordance with the CalTrans traffic manual, shall be developed and implemented during construction: one for the Center Road Pipeline route and one for Line 225 Pipeline Loop. The plans shall detail the location, schedule, signage, and safety procedures for lane and road closures based on final pipeline engineering design. The plans shall be submitted to and approved by CalTrans or applicable local City/County traffic at least 60 days prior to construction. The plans shall include the following conditions: <ul style="list-style-type: none"> <li>• Two-way traffic be maintained at all times, and use of flaggers as necessary;</li> <li>• Signage be up to date and in good condition at all times;</li> <li>• Safety measures for motorists and construction workers;</li> <li>• Ensure access for emergency vehicles at all</li> </ul>	Class III	CSLC

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<p>times;</p> <ul style="list-style-type: none"> <li>• Open lanes as soon as possible to restore normal traffic patterns;</li> <li>• Provide temporary access to businesses along the pipeline route during construction;</li> <li>• Cross highways and railroads by conventional horizontal boring to minimize disruption to traffic;</li> <li>• Notify the public during construction, using methods such as including large electronic monitoring signs, notification to impacted residents, appropriate detour signs, notifications to schools and emergency providers;</li> <li>• Provide an information hotline to be manned during business hours;</li> <li>• Re-open bicycle lanes as soon as possible to minimize disruption to bicycle traffic;</li> <li>• After construction, restore the routes to original conditions; and</li> </ul> <p>During the design phase the applicant shall coordinate with other utilities service providers to ensure conflicts with other utilities are minimized.</p> <p><b>MM Trans-1b. Fund Inspection Position.</b> The Applicant shall fund at least one full-time inspection position for each pipeline segment during the duration of construction plus one month to monitor compliance with the mitigation measures in this EIS/EIR, the approved Traffic Control Plan, and restoration; these workers will be selected and employed by Ventura County, or the City of Oxnard, or the City of Santa Clarita,</p>		CSLC

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		as agreed to by all parties.		
<b>Trans 2: Temporary Reduced On-Street Parking Access</b> Construction could temporarily restrict residential on-street parking access	Class III	None	Class III	
<b>Trans 3: Temporary Closure of Bike Routes.</b> Construction could result in temporary closure and/or restricted access to bike paths crossed by the onshore pipelines.	Class III	<b>MM Trans-1a. Traffic Control Plans</b> also applies here.	Class III	CSLC
<b>Trans 4: Temporary Delays for Transit and Railway Routes.</b> HDD activities, in-shoulder construction, and lane closures could delay normal bus routes and disrupt railway routes.	Class II	<b>MM Trans-4a. Coordination with Local Jurisdictions and Notification.</b> The Applicant shall coordinate with local jurisdictions to notify residents and transit operators of alternate traffic routes. The Applicant also shall coordinate with Southern Pacific Railroad to determine whether HDD can be conducted during passage of trains; if not, drilling shall be scheduled to cease when trains pass the drilling point.	Class III	CSLC
<b>Trans 5: Temporary Increase in Traffic.</b> During construction, the addition of the construction-related workforce and material deliveries to and from staging areas could increase traffic during peak construction periods.	Class II	<b>MM Trans-5a. Notification, Schedule Shifts, Carpooling.</b> Best management practices such as notification, schedule shifts, carpooling, and other shall be implemented to minimize increases in traffic. The Applicant shall incorporate the following measures to minimize the impact of the short-term increase in traffic from the construction workforce and truck deliveries. <ul style="list-style-type: none"> <li>• Coordinate with local jurisdictions to notify residents and transit operators of alternate traffic routes.</li> <li>• Schedule shifts and material deliveries to avoid peak traffic congestion hours.</li> </ul>	Class III	CSLC

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<ul style="list-style-type: none"> <li>Promote carpooling among the construction workforce.</li> <li>Stage worker personal vehicles and some trucks at one of the other two staging areas during work on the middle segment of the pipeline.</li> </ul> <b>MM Trans-5b. MM Trans-a1. Traffic Control Plans</b> also applies here.		CSLC
<b>Trans 6:</b> <i>Temporary Increase in Traffic at Level of Service E Intersection.</i> Construction of the Center Road Pipeline or Alternate routes would require access to the intersection of Los Angeles Avenue (118) and Santa Clara Avenue, which is already at Level of Service E.	Class II	<b>MM Trans-6a. Limit Construction Hours.</b> To mitigate traffic impacts at the intersection, construction shall not occur during afternoon peak periods. In addition, the Applicant shall be required to provide compensatory mitigation fees to the Ventura County Department of Public Works to offset impacts to the Los Angeles Avenue (118) and Santa Clara Avenue intersection. Such fees shall be determined during the encroachment permit process with the County.	Class III	CSLC
<b>Trans 7:</b> <i>Damage to Roads During Construction.</i> Roads crossed or paralleled by the onshore pipelines, as well as those used to access the Project, could be damaged by increased traffic and heavy equipment.	Class II	<b>MM Trans-7a. Repair Damage to Roads.</b> Any damage to roads that occurs as a result of the Project shall be repaired to original conditions within 21 days. <b>MM Trans-7b: Hauling Permits.</b> All appropriate County/City and CalTrans hauling permits would be up to date prior to the start of construction to avoid damage to roadways. While there may be some temporary impacts to roads during construction, any such damage would be repaired to the original conditions within 21 days.	Class III	CSLC  CSLC

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
<b>WATER</b>				
<b>Offshore – Construction/Installation</b>				
<b>WAT-1: Temporary Degradation of Offshore Water Quality due to Normal Vessel Discharges</b> Normal discharges from construction vessels would temporarily degrade offshore water quality.	Class III	<b>AMM WAT-1a. Marine Sanitary Device.</b> Per USCG regulations, all Project vessels would be equipped with a certified operable Marine Sanitary Device. <b>MM WAT-1b. Adhere to MARPOL Annex I and IV.</b> All Project construction vessels shall adhere to the provisions of MARPOL Annex I and IV for the discharge of oil or sewage discharge.	Class III	USCG  USCG
<b>WAT-2: Temporary Degradation of Offshore Water Quality due to Accidental Discharges</b> Accidental discharges of untreated petroleum, contaminants, graywater, or sewage from construction and installation vessels activities could temporarily degrade offshore water quality.	Class III	<b>AMM WAT-1a. Marine Sanitary Device</b> applies here. These mitigation measures from Section 4.12, "Hazardous Materials," also apply here: <b>AMM HAZ-1a. Develop and Implement a Curtailment Plan.</b> Develop and implement a critical operations and curtailment plan. <b>AMM HAZ-1b. Absorbent Materials.</b> Maintain onboard sufficient quantities of absorbent materials to contain and cleanup small spills. <b>MM HAZ-1c. Material Safety Data Sheets.</b> Maintain Material Safety Data Sheets (MSDS) for all hazardous materials stored onboard.	Class III	USCG/CSLC  USCG/CSLC  USCG/CSLC  USCG/CSLC
<b>Onshore Construction</b>				
<b>WAT-3: Temporary Degradation of Water Quality due to Hydrostatic Test Water Releases from Offshore Equipment Testing</b> Release of hydrostatic test water used for testing offshore equipment (product swivels, piping, valves, and offshore pipelines) could temporarily degrade water quality.	Class III	<b>AMM WAT-3a. Use Hydrostatic Test Water from Approved Source.</b> Hydrostatic test water used for the subsea pipelines would be obtained from an approved source, pursuant to applicable permits. <b>AMM WAT-3b. Aerate Hydrostatic Test Water.</b> Hydrostatic water treated with oxygen scavengers would be sufficiently aerated to ensure that the oxygen scavengers are removed before discharge.	Class III	CSLC  USCG/CSLC

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<p><b>AMM WAT-3c. Minimize Use And Regulate Residence Time of Biocide.</b> The percentage of biocide would be kept sufficiently small and the residence time in the pipelines sufficiently long to render the biocide no longer harmful to sea life upon discharge.</p> <p><b>AMM WAT-3d. Environmentally Friendly Oxygen Scavengers.</b> Every reasonable effort would be made to utilize oxygen scavengers and biocides that are not detrimental to the environment.</p> <p>By using aeration during discharge, oxygen scavengers would be removed and therefore the discharge would not adversely affect water quality. With a low percentage of biocide and sufficient residence time in the pipelines, the biocide would no longer harmful to sea life upon discharge. These potential impacts would be temporary and localized and therefore are considered less than significant.</p> <p><b>MM WAT-3e. Evaluate Hydrostatic Test Water Before Release.</b> Before discharge, the hydrostatic test water shall be evaluated by a qualified biological monitor to ensure that it meets local, State, or Federal water quality standards.</p> <p><b>MM WAT-3f. Monitor the Release of Test Water.</b> A qualified biological monitor shall be on site prior to and during the release of the test water to ensure compliance with permit requirements and shall ensure the released water meets local, State, or Federal water quality standards.</p>		<p>USCG/CSLC</p> <p>USCG/CSLC</p> <p>USCG/CSLC</p> <p>USCG/CSLC</p>

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
<p><b>WAT-4:</b> <i>Short-Term Increase in Turbidity or Accidental Unearthing of Contaminants during Offshore Construction</i></p> <p>The installation of the FSRU and subsea pipelines could disturb seafloor sediments, causing a short-term increase in turbidity or accidental unearthing of contaminants.</p>	Class III	None	Class III	
<p><b>WAT-5:</b> <i>Short-Term Degradation of Surface Water or Groundwater Quality due to Accidental Release of Drilling Fluids</i></p> <p>Accidental releases of drilling fluids at the shore or stream crossings during construction could degrade surface water or groundwater quality for the short term.</p>	Class II	<p><b>MM WAT-5a. Prepare and Implement HDD Contingency Plan.</b> The Applicant shall develop a release of drilling muds contingency plan to minimize the potential for releases of drilling muds associated with HDD activities and to ensure a timely response if any releases of drilling muds occur. The Plan shall identify measures to be taken to avoid a release of drilling muds and immediate measures to be taken if a release of drilling muds occurs. At least 60 days prior to construction, this Plan shall be submitted to the California State Lands Commission (CSLC). CSLC may request review by the Los Angeles Regional Water Quality Control Board (RWQCB). The Plan would incorporate best management practices to reduce the impacts from releases of drilling muds, including the following:</p>	Class III	USCG/CSLC

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<ul style="list-style-type: none"> <li>• Maintaining containment equipment for drilling fluids on site;</li> <li>• Adding a non-toxic color dye to the HDD drilling fluids in order to easily and quickly detect release of drilling muds;</li> <li>• Ensuring that a qualified biological monitor is on-site full time near sensitive habitat areas during HDD activities;</li> <li>• Stopping work immediately if there is any detection of bentonite seeps into surface water or sensitive habitats, for example, by a loss in pressure or visual observation of changes in turbidity or surface sheen; and</li> <li>• Reporting all bentonite seeps into waters of the State or sensitive habitat immediately to the Project's resource coordinator, CSLC, Los Angeles RWQCB, and the appropriate resource agencies: National Marine Fisheries Service (NOAA Fisheries), U.S. Fisheries and Wildlife Services (USFWS), U.S. Army Corps of Engineers (USACE), the Department of Water Resources, the Reclamation Board, the applicable city (Oxnard or Santa Clarita) and county (Ventura or Los Angeles).</li> </ul> <p><b>MM WAT-5b. Strategic Location for Drilling Muds and Cuttings Pit.</b> The Applicant shall ensure a pit has been excavated at the exit hole to collect and contain the drilling muds and cuttings. Strategic measures—such as a turbidity curtain around the pit—shall be taken to ensure that fluids remain contained in the pit, including:</p>		USCG/CSLC



**Table 6.1-1 Impacts and Mitigation Measures**

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<ul style="list-style-type: none"> <li>• Locate the entry pit and exit pit sufficiently far from a stream bank and at a sufficient elevation to avoid inundation by the stream and to minimize excessive migration of groundwater into the entry pit or exit pit;</li> <li>• Isolate the entry pit and exit pit with silt fencing to avoid sediment transport into the surface water body;</li> <li>• Isolate the spoils storage from the excavation of the entry pit using silt fencing to avoid sediment transport;</li> <li>• If drilling mud congeals, take no other action that would potentially suspend sediments in the water column;</li> <li>• If drilling mud does not congeal, erect isolation/containment environments (underwater boom and/or turbidity curtains);</li> <li>• If the fracture becomes excessively large, call in a spill response team to contain and clean up excess drilling mud in the water;</li> <li>• Undertake and complete proper disposal of excess spoils; backfill and restore the original contour of the entry pit and exit pit; and then revegetate upon completion of the bore;</li> <li>• If a release of drilling muds occurs, a qualified biological monitor should monitor the drilling mud congeals to determine the appropriate cleanup response; and</li> <li>• Consult with regulatory agencies to determine the next appropriate step to clean up the area.</li> </ul>		

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
<p><b>WAT-6:</b> <i>Short-Term Degradation of Surface Water Quality due to the Release of Contaminants in Hydrostatic Test Water from Testing of Onshore Pipelines</i></p> <p>Discharge of hydrostatic water used to test the onshore pipelines could release contaminants to surface water or groundwater, causing short-term degradation of water quality.</p>	Class III	<p><b>AMM WAT-3a. Hydrostatic Test Water from Approved Source</b> applies here.</p> <p><b>AMM WAT-3b. Aerate Hydrostatic Test Water</b> applies here.</p> <p><b>AMM WAT-3c. Minimize Use and Regulate Holding Time of Biocide</b> applies here.</p> <p><b>AMM WAT-3d. Environmentally Friendly Oxygen Scavengers</b> applies here.</p> <p>Mitigation Measure(s) for Impact Wat-6: Short-Term Degradation of Surface Water Quality due to the Release of Contaminants in Hydrostatic Test Water</p> <p><b>MM WAT-3e. Evaluate Hydrostatic Test Water Before Release</b> applies here.</p> <p><b>MM WAT-3f. Monitor the Release of Test Water</b> applies here.</p>	Class III	<p>CSLC</p> <p>CSLC</p> <p>USCG/CSLC</p> <p>USCG/CSLC</p> <p>USCG/CSLC</p> <p>USCG/CSLC</p>
<p><b>WAT-7:</b> <i>Short-Term Increase in Erosion due to Construction Activities</i></p> <p>HDD and trenching at stream crossings, including release of hydrostatic test water, could cause short-term increases in erosion.</p>	Class II	<p><b>AMM HAZ-5b. Storm Water Pollution Prevention Plan</b> applies here.</p> <p><b>MM WAT-7a. Erosion Control Plan.</b> The Applicant shall develop an Erosion Control Plan and the plan must be submitted to and approved by the CSLC at least 60 days before construction of the Project begins. Erosion and drainage control measures proposed by the Applicant include water bars, drainage ditches, culverts, silt fences, and energy dissipaters. The following measures, or comparable measures based on site-specific features, shall be addressed to minimize the incidence of sediment mobilization during construction:</p>	Class III	<p>USCG/CSLC</p> <p>USCG/CSLC</p>

**Table 6.1-1 Impacts and Mitigation Measures**

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<ul style="list-style-type: none"> <li>• Clear vegetation to the minimal area needed to conduct the construction activities;</li> <li>• Sidecast all excavated material in upland habitat areas within the work area;</li> <li>• Protect any work near or adjacent to any drainage or wetland through the installation of orange construction fencing, backed by silt fencing;</li> <li>• Stabilize all disturbed soils by compaction and recontouring the entire area to pre-construction grades upon completion of the pipeline construction work;</li> <li>• Direct runoff away from disturbed areas using temporary drainageways;</li> <li>• Monitor turbidity downstream of the drill or trenching site(s);</li> <li>• Stabilize plant site roadways by compaction or use of gravel;</li> <li>• Utilize soil stabilizers (most commonly water) on disturbed areas as appropriate and as required by South Coast Air Quality Management District (SCAQMD) rules;</li> <li>• Utilize straw bale barriers to intercept sediment-laden runoff from small areas of disturbed soil;</li> <li>• Create straw check dams to reduce erosion of existing drainage channels and to promote sedimentation behind the dam;</li> <li>• Create stormwater retention basins to retain runoff and allow excessive sediment to settle out;</li> </ul>		

**Table 6.1-1 Impacts and Mitigation Measures**

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<ul style="list-style-type: none"> <li>• Inspect temporary erosion control devices during construction in accordance with the Final Plan schedule;</li> <li>• Replace damaged or missing structures immediately;</li> <li>• Notify Project construction crews regarding when to implement adequate precautions in anticipation of poor weather conditions;</li> <li>• Dictate appropriate wetness when watering a road for dust suppression;</li> <li>• Develop remedial erosion controls for problem areas, if any;</li> <li>• Protect stockpiled soil from runoff with hay bales or silt fencing; suppress dust with water;</li> <li>• Install temporary slope breakers (water bars or berms) where the grade is steep enough to require such measures in order to divert water from the construction right-of-way (ROW) and to reduce velocities;</li> <li>• Install slope breakers at spacing recommended by the Natural Resources Conservation Service (NRCS);</li> <li>• Construct slope breakers from soil, silt fences, or staked hay or straw bales;</li> <li>• Inspect, replace and repair straw bale barriers and/or check dams as needed and remove accumulated sediment when it reaches a depth of 6 inches;</li> <li>• Inspect sandbags placed along the toes of slopes and at linear facility structures,</li> </ul>		

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<p>removing sediment after each significant storm event and depositing the sediment in a stable area not subject to erosion;</p> <ul style="list-style-type: none"> <li>Remove or re-grade sediment that accumulates more than 1 foot behind the (sandbag) barrier;</li> <li>Inspect protected storage areas for stockpiled soils or other materials;</li> <li>Depending on the season, inspect slope breakers in areas of active equipment or within 24 hours of each 0.5 inch of rainfall; and</li> <li>Maintain slope breakers until revegetation measures are successful or the area is stabilized.</li> <li>A qualified biological monitor shall ensure these requirements are continually being met and will have the authority to shut down construction if they are not.</li> </ul> <p><b>MM WAT-7b. Energy Dissipater for Hydrostatic Test Water Discharge.</b> For the hydrostatic test water discharge, the Applicant shall design and install a suitable energy dissipater at the outlets and design and install suitable channel protection structures to ensure that there would be no erosion or scouring of natural channels within the affected watershed. Sandbags, rocks, or other materials or objects installed shall be removed from the site upon completion of hydrostatic testing.</p>		CSLC

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
		<p><b>MM WAT-7c. Transport Sediment Spoils Off-Site.</b> Sediment spoils that are not utilized to fill trenches in stream channels shall be transported off site.</p> <p><b>MM WAT-7d. Re-establish Contours and Vegetative Cover/Pavement.</b> Contours and vegetative cover/pavement shall be re-established as soon as practicable following disturbance.</p> <p><b>MM WAT-7e. Monitor Stream Crossing Construction.</b> A qualified biological monitor shall be present at each stream crossing construction site to ensure compliance with applicable permits and mitigation.</p>		<p>USCG/CSLC</p> <p>USCG/CSLC</p> <p>USCG/CSLC</p>
<p><b>WAT-8: Degradation of Water Quality due to Normal Release of Treated Discharges During Offshore Operations</b></p> <p>Normal releases of graywater, brine, ballast, and other substances could release small amounts of contaminants, including petroleum, detergents, or human waste, to marine waters, although not in excess of water quality standards.</p>	Class III	<p><b>AMM WAT-8a. Treat Sewage.</b> Sewage from the FSRU would be treated in an International Maritime Organization (IMO)-approved system.</p> <p><b>AMM WAT-8b. Treat Graywater.</b> The graywater shall be treated using filtration to separate particulate matter and ultraviolet (UV) oxidation to destroy dissolved organic materials.</p>	Class III	USCG

Table 6.1-1 Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Monitoring Responsibility
<b>Onshore Operations</b>				
<p><b>WAT-9: Degradation of Water Quality due to Accidental Release of Untreated Graywater, Deck Drainage, and other Regulated Discharges that do Not Meet Water Quality Standards</b></p> <p>Accidental releases from the FSRU could release small amounts of contaminants, including petroleum, detergents, or human waste, to marine waters, in excess of water quality standards.</p>	Class III	<p><b>AMM HAZ-1a. Develop and Implement a Curtailment Plan.</b> Develop and implement critical operations and curtailment plan.</p> <p><b>AMM HAZ-1b. Absorbent Materials.</b> Maintain onboard sufficient quantities of absorbent materials to contain and cleanup small spills.</p> <p><b>AMM HAZ-2a. Manage Used Oil in Accordance with USEPA and State Requirements.</b> The Applicant has proposed that used oil would be returned to shore in the same labeled and Department of Transportation (DOT)-approved containers used to provide the replacement oil, which would ensure that appropriate containers would be used for all oil in storage and in transport.</p> <p><b>MM HAZ-1c. Material Safety Data Sheets.</b> Maintain Material Safety Data Sheets (MSDS) for all hazardous materials stored onboard.</p> <p><b>MM HAZ-2b. Storage of Hazardous Materials</b> applies here.</p> <p><b>MM WAT-9a. Systems Inspections.</b> The sewage treatment and oil-water separator systems shall be inspected by a qualified engineer annually to ensure it is functioning properly. Additionally, as part of normal operations, if oily residue or foam appears on the sea surface around the FSRU, the systems shall be inspected to determine whether they are the source. Records of inspections shall be kept by the Applicant.</p>	Class III	<p>USCG/CSLC</p> <p>USCG/CSLC</p> <p>USCG/CSLC</p> <p>USCG/CSLC</p> <p>USCG/CSLC</p> <p>USCG/CSLC</p>

**Table 6.1-1 Impacts and Mitigation Measures**

<b>Impact</b>	<b>Significance Before Mitigation</b>	<b>Mitigation Measures</b>	<b>Significance After Mitigation</b>	<b>Monitoring Responsibility</b>
<p><b>WAT-10: Temporary Degradation of Surface Water Quality During Maintenance Activities</b>  Releases of petroleum or other contaminants during maintenance activities could temporarily degrade surface water quality.</p>	Class III	<p><b>AMM WAT-10a. Best Management Practices (BMPs) at Creek Crossings.</b> Best management practices such as using silt fencing and hay bales would be employed at all creek crossings for major maintenance activities that could result in spills that could enter surface water pathways.</p> <p><b>AMM WAT-10b. Spill Response Plan.</b> The Applicant would prepare a Spill Response Plan to protect surface water at and near the surface water crossings. This Plan shall be submitted and approved by the Los Angeles RWQCB at least 60 days before the construction of the onshore pipelines. The Plan shall identify specific measures to prevent, contain, and clean up any spills that could enter surface water pathways.</p>	Class III	<p>CSLC</p> <p>CSLC</p>
<p><b>WAT-11: Short-Term Degradation of Surface Water Quality due to Erosion caused by Regular Maintenance Activities</b>  Regular maintenance of the pipelines could cause erosion and sedimentation of creeks from the use of maintenance vehicles or equipment, leading to short-term violations of water quality standards.</p>	Class III	<p><b>AMM WAT-10a. Best Management Practices (BMPs) at Creek Crossings</b>  <b>AMM WAT-10b. Spill Response Plan</b></p>	Class III	<p>CSLC</p> <p>CSLC</p>



Key:  
 RSPA – Research and Special Projects Administration  
 OPS – Office of Pipeline Safety  
 CPUC SRB – California Public Utilities  
 CSLC – California State Lands Commission  
 USB – CPUC Utilities Safety Branch

## **6.2 ENVIRONMENTALLY PREFERABLE PROJECT ALTERNATIVE**

The staffs of the CSLC and the USCG have identified the proposed project as the environmentally preferred alternative. In this discussion, the first comparison is between the proposed Project and the Santa Barbara Channel/Mandalay Shore Crossing/Gonzales Road Pipeline, which provides a complete project alternative. The second comparison is between the shore crossing and pipeline alternatives and the proposed Project, and the last is between the Line 225 Pipeline Loop and alternative.

### **6.2.1 Comparison of Proposed Project and SB Channel/Mandalay/Gonzales Road DWP Alternative**

While the proposed Project could be built at either location, the proposed project is preferable to the Santa Barbara Channel alternative. The location of the FSRU is outside the traffic separation scheme and farther from land than the Santa Barbara Channel alternative. This location would result in less visual impact, fewer potential conflicts with recreational fishers and boaters, and less impact to commercial fishing. Although it poses a greater potential for conflict with the operations of the Navy Sea Range Point Mugu, these impacts can be mitigated by coordination and communication with the Navy.

The shore crossing at the Reliant Ormond Beach Generating Station that is proposed for the Project is preferable to the Reliant Mandalay Generating Station Shore Crossing because it would have less effect on the sensitive species that are closer to the Mandalay site. The Center Road Pipeline is preferable to the Gonzales Road Pipeline because during its construction it would affect fewer people and less traffic would be disrupted on significant thoroughfares. Thus, overall the proposed Project is preferable to the Santa Barbara Channel alternative.

### **6.2.2 Comparison of Proposed Project and Shore Crossing Alternatives**

Several alternatives to the components that make up the proposed Project were considered. The Reliant Ormond Beach Generating Station Shore Crossing is preferable to the Arnold Road Shore Crossing/Arnold Road Pipeline because it could be constructed entirely on disturbed land, which is not the case for the Arnold Road alternative. It also would avoid the need to locate the HDD drill site on State Coastal Conservancy land (the most likely location for the Arnold Road alternative). Although the meter station and odorant facility would be fenced, it would not be guarded on Arnold Road as it would in its proposed location within the Reliant generating plant site. While the risks of an accident involving a release of either the odorant or unodorized natural gas is very small, the secure and secluded nature of the Reliant station makes it preferable to the Arnold Road location.

### 6.2.3 Comparison of Proposed Project and Alternative Onshore Pipeline Route Alternatives

Although similarly protected, the Point Mugu site also would require that the odorant station and meter station be located outside the base property, which makes it slightly less preferable. The Point Mugu site offers the benefit of controlled access during the HDD operations and no beach users would be affected. However, construction would need to be scheduled to avoid sensitive species that use the beach, which would be avoided at the Reliant Ormond Beach facility because the land is already disturbed. Although the Casper Road and Arnold Road Pipelines that would connect the respective shore crossings with the Center Road Pipeline would both be shorter than the proposed Project, the difference in length is insignificant when the fact that the pipelines would be installed in existing road rights-of-way is considered. For these reasons, although any of the three shore crossings could probably be constructed, the Reliant alternative is environmentally preferable.

Any of the proposed pipelines would be required to be designed and operated in compliance with Federal and State laws that would ensure their safe construction and operation; however, there are some observable difference among the alternatives. A number of potential routes were considered, and two alternatives to the Center Road Pipeline were carried forward for analysis, in addition to the Gonzales Road Alternative considered as a component of the Santa Barbara Channel alternative.

The Applicant originally proposed Center Road Alternative 1 as the Project. However, during public scoping, many concerns were expressed regarding this route, and the Applicant developed a new alternative now identified as the Center Road Alternative. Although any of the three pipeline alternatives could be built, the Center Road Alternative would avoid many of the construction related disturbances that affect the public because it would be constructed in existing roadways and other rights-of-way primarily through agricultural areas.

Center Road Alternative 1 (originally the proposed Project) is longer and would affect more High Consequence Areas than the proposed route. While Center Road Alternative 2 crosses even more agricultural areas and poses fewer impacts to businesses, this is a minor difference. It approaches the sphere of influence for Camarillo, and crosses several more water bodies, including Beardsley Wash. It also follows Pleasant Valley Road for a greater distance, which could have greater traffic impacts. Overall, these are relatively small differences, and either pipeline could be environmentally acceptable.

The comparison matrices in tables 6.2-1 (Proposed Offshore Project Components and Alternatives), 6.2-2 (Proposed Onshore Pipeline Project Components and Alternatives), and 6.2-3 (Proposed Shore Crossing Components and Alternatives) below, summarize the comparison of impacts for the proposed Project and Alternatives discussed above. Based on the discriminators identified above, the USCG, MARAD and CSLC find that the proposed Project is the preferred alternative.



1

**Table 6.2-1 Comparison Matrix: Proposed Offshore Project Components and Alternatives**

<b>Issue Area and Impacts</b>	<b>Impacts of the Proposed Project (Cabrillo Port) After Mitigation</b>	<b>Comparison of Santa Barbara Channel Alternative Impacts with the Proposed Project</b>	<b>Comparison of No Action Alternative Impacts with the Proposed Project</b>
<b>Safety</b>			
PS-1. Potential Release of LNG due to Operational Incident or Natural Phenomena	Less than significant	Unknown	Less
PS-2. Potential Release of LNG due to High Energy Marine Collision or Intentional Attack	Significant	Similar	Less
PS-3. Potential Release of Unodorized Natural Gas due to Accidental Damage of Subsea Pipelines.	Significant	Similar	Less
PS-4. Potential Release of Unodorized Natural Gas due to Accidental Damage of Pipelines	Significant	Similar	Less
PS-5. Potential Odorant Release and Fire	Less than significant	Similar	Less
PS-6. Potential Release of Natural Gas due to Operational Incident or Natural Phenomena	Significant	Similar	Less
PS-7. In the event of an accident, there is a greater likelihood of injury, fatality, and property damage due to fire and explosion in Areas with Less Robust Housing Construction.	Significant	Unknown	Less
PS-8. In the event of an accident, there is an increased potential for injury or fatality near Center Road Pipeline Milepost 4.1 due to Community Activities Outdoors.	Significant	N/A	Less
<b>Marine Transportation</b>			
MT-1: Temporary Disruption of Maritime Traffic and Increased Collision Risks during Offshore Construction	Less than significant	Less	Less
MT-2: Temporary Increase in Maritime Traffic Congestion at Local Ports during Offshore Construction	Less than significant	Similar	Less
MT-3: Temporary Interference with Operations in the Point Mugu Sea Range during Offshore Construction	Less than significant	Less	Less

**Table 6.2-1 Comparison Matrix: Proposed Offshore Project Components and Alternatives**

<b>Issue Area and Impacts</b>	<b>Impacts of the Proposed Project (Cabrillo Port) After Mitigation</b>	<b>Comparison of Santa Barbara Channel Alternative Impacts with the Proposed Project</b>	<b>Comparison of No Action Alternative Impacts with the Proposed Project</b>
MT-4: Temporary Disruption in Maritime Traffic and Increased Risk of Vessel Collisions due to Activities at the HDD Exit Point and Pipe Laying	Less than significant	Similar	Less
MT-5: Long-term Interference with Operations in the Point Mugu Range	Less than significant	Less	Less
MT-6: Long-term Disruption in Maritime Traffic and Increased Risk of Vessel Collisions due to FSRU Location	Less than significant	Greater	Less
MT-7: Long-term Disruption of Local Maritime Traffic and Increased Risk of Vessel Collisions	Less than significant	Similar	Less
<b>Aesthetics</b>			
AES-1: Change in Nighttime Views Caused by Offshore Pipeline Construction	Less than significant	Greater	Less
AES-2: The FSRU Would Alter Ocean Views from Onshore and Channel Islands Viewpoints	Less than significant	Greater	Less
AES-3: The FSRU May Alter the Anticipated Views for Recreational Boaters	Significant	Greater	Less
AES-4: Long-term Change in Nighttime Views	Less than significant	Greater	Less
AES-5: Construction Equipment and Activities Would be Visible along Local Streets	Less than significant	Similar	Less
AES-6: Construction Equipment and Activities Would be Visible on Local Roads	Less than significant	Similar	Less
<b>Agriculture and Soils</b>			
AGR-1: Loss of Agricultural Land	N/A	N/A	N/A
AGR-2: Topsoil Mixing and Compaction	N/A	N/A	N/A
AGR-3: Dust Deposition	N/A	N/A	N/A

**Table 6.2-1 Comparison Matrix: Proposed Offshore Project Components and Alternatives**

<b>Issue Area and Impacts</b>	<b>Impacts of the Proposed Project (Cabrillo Port) After Mitigation</b>	<b>Comparison of Santa Barbara Channel Alternative Impacts with the Proposed Project</b>	<b>Comparison of No Action Alternative Impacts with the Proposed Project</b>
AGR-4: Loss of Tree Rows	N/A	N/A	N/A
<b>Air Quality</b>			
Air-1: Emissions of Regulated Pollutants Generated during Offshore Construction	Less than significant	Similar	Less
Air-2: Stationary Sources Emissions of Regulated Pollutants during Offshore Operations	Less than significant	Similar	Less
Air-3: Emissions of Ammonia during Offshore Operations	Less than significant	Similar	Less
Air-4: Emissions from Mobile Sources during Offshore Operations	Less than significant	Similar	Less
Air-5: Emissions Generated during Onshore Construction	Less than significant	Similar	Less
Air-6: Emissions from an Accident during Onshore Operations	Less than significant	Similar	Less
Air-7: Emissions Generated during Offshore and Onshore Construction and Operations That Are Not Addressed Under Permits	Less than significant	Similar	Less
<b>Biology, Marine</b>			
BioMar-1: Temporary or Permanent Alteration or Disturbance of Essential Fish Habitat (EFH) or Sensitive Habitats	Less than significant	Greater	Less
BioMar-2: Disruption of Marine Biota Behavior	Less than significant	Similar	Less
BioMar-3: Temporary Avoidance of the Area due to HDD Release of Drillings Muds	Less than significant	Similar	Less
BioMar-4: Burial of Sessile Marine Biota	Less than significant	Similar	Less
BioMar-5: Mortality and Morbidity of Marine Biota from Spills	Less than significant	Similar	Less

**Table 6.2-1 Comparison Matrix: Proposed Offshore Project Components and Alternatives**

<b>Issue Area and Impacts</b>	<b>Impacts of the Proposed Project (Cabrillo Port) After Mitigation</b>	<b>Comparison of Santa Barbara Channel Alternative Impacts with the Proposed Project</b>	<b>Comparison of No Action Alternative Impacts with the Proposed Project</b>
BioMar-6: Accidental Discharge of Bilge Water, Graywater, and Deck Runoff	Less than significant	Similar	Less
BioMar-7: Discharge of Ballast Water	Less than significant	Similar	Less
BioMar-8: Increase/Decrease in Fish Abundance or Commercially Important Benthic Species	Beneficial, Less than significant	Similar	Less
BioMar-9: Collision between Project Vessels and Marine Mammals or Sea Turtles	Less than significant	Greater	Less
BioMar-10: Noise Disrupting Marine Mammal Behavior	Less than significant	Greater	Less
BioMar-11: Entanglement of Marine Mammals and Turtles	Less than significant	Greater	Less
Impact BioMar-12: Release of LNG, Natural Gas, Fuel, or Oil Causes Injury or Mortality of Marine Mammals.	Less than significant	Greater	Less
BioMar-13: Lights and Debris from the FSRU Act as an Attractive Nuisance.	Less than significant	Greater	Less
BioMar-14: Temporary or Permanent Alteration or Disturbance of Sensitive Marine Mammal, Sea Turtle, or Seabird habitats.	Less than significant	Greater	Less
<b>Biology, Terrestrial</b>			
TerrBio-1: Temporary Increase in Sedimentation	N/A	N/A	N/A
TerrBio-2: Temporary or Permanent Construction, Operation, and Maintenance Effects on Rare and Special Status Plants	N/A	N/A	N/A
TerrBio-3: Temporary or Permanent Vegetation Loss due to Removal/Habitat Removal	N/A	N/A	N/A
TerrBio-4: Temporary or Permanent Changes to Wetlands during Construction	N/A	N/A	N/A
TerrBio-5: Permanent Impact Caused by Noxious Weed Invasion	N/A	N/A	N/A



**Table 6.2-1 Comparison Matrix: Proposed Offshore Project Components and Alternatives**

<b>Issue Area and Impacts</b>	<b>Impacts of the Proposed Project (Cabrillo Port) After Mitigation</b>	<b>Comparison of Santa Barbara Channel Alternative Impacts with the Proposed Project</b>	<b>Comparison of No Action Alternative Impacts with the Proposed Project</b>
TerrBio-6: Temporary Impacts on Wildlife Habitat Removal	N/A	N/A	N/A
TerrBio-7: Direct Permanent Increase in Wildlife Mortality	N/A	N/A	N/A
TerrBio-8: Temporary Wildlife Disturbance from Increased Human Presence	N/A	N/A	N/A
TerrBio-9: Temporary or Permanent Construction Impacts on Sensitive Species and/or Habitats	N/A	N/A	N/A
<b>Cultural</b>			
Cultural-1: Destruction of Maritime Archaeological Sites and Artifacts	Less than significant	Similar	Less
Cultural-2: Native American Values	Less than significant	Similar	Less
Cultural-3: Terrestrial Historic or Archaeological Resources	Less than significant	Unknown	Less
<b>Energy</b>			
ENE-1: Access to Mineral Resources	Less than significant	Similar	Similar
<b>Geology</b>			
GEO-1: Increased Erosion, Differential Compaction, or Scour	Less than significant	Similar	Less
GEO-2: Disturbing or Destroying Paleontological Resources	Less than significant	Similar	Less
GEO-3: Damage due to Direct Rupture along Fault Lines	Less than significant	Less	Less
GEO-4: Damage to Pipelines and Associated Facilities from Surface Shaking	Less than significant	Similar	Less
GEO-5: Damage to Pipelines from Landslides, Liquefaction, Subsidence, Sand Migration, or Turbidity Currents	Less than significant	Similar	Less

**Table 6.2-1 Comparison Matrix: Proposed Offshore Project Components and Alternatives**

<b>Issue Area and Impacts</b>	<b>Impacts of the Proposed Project (Cabrillo Port) After Mitigation</b>	<b>Comparison of Santa Barbara Channel Alternative Impacts with the Proposed Project</b>	<b>Comparison of No Action Alternative Impacts with the Proposed Project</b>
GEO-6: Damage to Pipelines from Tsunami	Less than significant	Similar	Less
GEO-7: Damage to Pipelines from Shallow Gas Seeps	Less than significant	Similar	Less
GEO-8: Potential to Change the Transport of Sediment in Offshore Areas	Less than significant	Similar	Less
<b>HAZARDOUS MATERIALS</b>			
HAZMAT-1: Potential Hazardous Materials Spills during to Offshore Construction	Less than significant	Similar	Less
HAZMAT-2: Potential Hazardous Materials Spills due to Offshore Operations	Less than significant	Less	Less
HAZMAT-3: Release of Existing Contaminants from Sediments, Soils, or Groundwater	N/A	N/A	N/A
HAZMAT-4: Release of Methane or Other Flammable or Toxic Gases from Nearby Landfills	N/A	N/A	N/A
HAZMAT-5: Potential Hazardous Materials Spills Due to Onshore Construction or Transportation	N/A	N/A	N/A
HAZMAT-6: Accidental Release of Drilling Muds during HDD	Less than significant	Greater	Less
HAZMAT-7: Potential Hazardous Materials Spills due to Onshore Operations	N/A	N/A	N/A
HAZMAT-8: Potential Disturbance or Detonation of Unexploded Ordnance (UXO) due to Onshore or Offshore Construction	Less than significant	Similar	Less
<b>Land Use</b>			
LU-1: Changes in Land Use	Less than significant	Similar	Less
LU-2: Nuisances to Residents and Businesses	N/A	N/A	N/A
<b>Noise</b>			

**Table 6.2-1 Comparison Matrix: Proposed Offshore Project Components and Alternatives**

<b>Issue Area and Impacts</b>	<b>Impacts of the Proposed Project (Cabrillo Port) After Mitigation</b>	<b>Comparison of Santa Barbara Channel Alternative Impacts with the Proposed Project</b>	<b>Comparison of No Action Alternative Impacts with the Proposed Project</b>
NOI-1: Noise Generated during the Installation of the Floating Storage and Regasification Unit (FSRU) and Offshore Pipeline	Less than significant	Similar	Less
NOI-2: Long-Term Noise Generated during FSRU Operations	Less than significant	Unknown	Less
NOI-3: Temporary Noise Generated by Support Vessels during Offshore Operations	Less than significant	Similar	Less
NOI-4: Temporary Noise Generated during HDD	Less than significant	Similar	Less
NOI-5: Noise Generated during Construction of the Onshore Pipeline	N/A	N/A	N/A
NOI-6: Noise Generated by Traveling to the Construction Site	N/A	N/A	N/A
NOI-7: Noise Generated during Operations Onshore	N/A	N/A	N/A
<b>Recreation</b>			
REC-1: Temporary Restrictions on Offshore Recreational Fishing during Construction	Less than significant	Similar	Less
REC-2: Restricted Recreational Fishing due to Safety/Security Zone	Less than significant	Similar	Less
REC-3: Alteration of the Offshore Recreational Experience during Operations	Significant	Similar	Less
REC-4: Temporary Restriction and Deterrence of Recreational Activities at Ormond Beach during Construction	Less than significant	Similar	Less
REC-5: Temporary Deterrence of Park Use due to Traffic Congestion	N/A	N/A	N/A
REC-6: Temporary Closure of Recreation Trails	N/A	N/A	N/A
<b>Socioeconomics</b>			
Socio-1: Small Increased Demand for Public Services	Less than significant	Similar	Less

**Table 6.2-1 Comparison Matrix: Proposed Offshore Project Components and Alternatives**

<b>Issue Area and Impacts</b>	<b>Impacts of the Proposed Project (Cabrillo Port) After Mitigation</b>	<b>Comparison of Santa Barbara Channel Alternative Impacts with the Proposed Project</b>	<b>Comparison of No Action Alternative Impacts with the Proposed Project</b>
Socio-2: Increased Demand for Housing by Construction Workers and Their Families	Less than significant	Similar	Less
Socio-3: Temporary Disruption of Onshore Commercial and Tourist Activities	Less than significant	Similar	Less
Socio-4: Temporary Disruption of Local Businesses during Onshore Pipeline Construction	N/A	N/A	N/A
Socio-5: Increase in Tax Revenue from Construction	Beneficial	Similar	Less
Socio-6: Increase in Tax Revenue During Operations	Beneficial	Similar	Less
Socio- 7: Decrease in Catch Revenues for Commercial Fisheries	Less than significant	Similar	Less
Socio-8: Increase in Regional Fishing Pressure	Less than significant	Similar	Less
Socio-9: Decreased Commercial Fisheries Revenues	Less than significant	Similar	Less
<b>Transportation (Onshore)</b>			
Trans 1: Temporary Traffic Lane Closures	N/A	N/A	N/A
Trans 2: Temporary Reduction of on Street Parking due to Construction Personnel	N/A	N/A	N/A
Trans 3: Temporary Closure of Bike Routes	N/A	N/A	N/A
Trans 4: Temporary Delays for Transit and Railway Routes	N/A	N/A	N/A
Trans 5: Temporary Increase in Traffic	N/A	N/A	N/A
Trans 6: Temporary Increase in Traffic at Level of Service E Intersection	N/A	N/A	N/A
Trans 7: Damage to Roads during Construction	N/A	N/A	N/A

**Table 6.2-1 Comparison Matrix: Proposed Offshore Project Components and Alternatives**

<b>Issue Area and Impacts</b>	<b>Impacts of the Proposed Project (Cabrillo Port) After Mitigation</b>	<b>Comparison of Santa Barbara Channel Alternative Impacts with the Proposed Project</b>	<b>Comparison of No Action Alternative Impacts with the Proposed Project</b>
Trans-8: Operations-Related Traffic	N/A	N/A	N/A
<b>WATER QUALITY AND SEDIMENTS</b>			
WAT-1: Temporary Degradation of Water Quality due to Discharges	N/A	N/A	N/A
WAT-2: Temporary Degradation of Offshore Water Quality due to Accidental Discharges	Less than significant	Similar	Less
WAT-3: Temporary Degradation of Water Quality due to Hydrostatic Test Water Releases from Offshore Equipment Testing	Less than significant	Similar	Less
WAT-4: Short-Term Increase in Turbidity or Accidental Unearthing of Contaminants during Offshore Construction	Less than significant	Similar	Less
WAT-5: Short-Term Degradation of Surface Water or Groundwater Quality due to Accidental Release of Drilling Fluids	N/A	N/A	N/A
WAT-6: Short-Term Degradation of Surface Water Quality due to the Release of Contaminants in Hydrostatic Test Water from Testing of Onshore Pipelines	N/A	N/A	N/A
WAT-7: Short-Term Increase in Erosion due to Construction Activities	N/A	N/A	N/A
WAT-8: Degradation of Water Quality due to Normal Release of Treated Discharges During Offshore Operations	N/A	N/A	N/A
WAT-9: Degradation of Water Quality due to Accidental Release of Untreated Graywater, Deck Drainage, and other Regulated Discharges that do Not Meet Water Quality Standards	N/A	N/A	N/A

**Table 6.2-1 Comparison Matrix: Proposed Offshore Project Components and Alternatives**

Issue Area and Impacts	Impacts of the Proposed Project (Cabrillo Port) After Mitigation	Comparison of Santa Barbara Channel Alternative Impacts with the Proposed Project	Comparison of No Action Alternative Impacts with the Proposed Project
WAT-10: Temporary Degradation of Surface Water Quality During Maintenance Activities	N/A	N/A	N/A
WAT-11: Short-Term Degradation of Surface Water Quality due to Erosion caused by Regular Maintenance Activities	N/A	N/A	N/A
<b>ENVIRONMENTAL JUSTICE</b>			
EJ-1: Disproportionate Impact to Minority and Low-Income Community of a Pipeline Accident	N/A	N/A	N/A

**Table 6.2-2 Comparison Matrix: Proposed Onshore Pipeline Project Components and Alternatives**

<b>Issue Area and Impacts</b>	<b>Impacts of Proposed Center Road Pipeline Route After Mitigation</b>	<b>Comparison of Alternative 1 Impacts to Proposed Center Road Pipeline Route</b>	<b>Comparison of Alternative 2 Impacts to Proposed Center Road Pipeline Route</b>	<b>Comparison of No Action Alternative to Proposed Center Road Pipeline Route</b>
<b>Safety</b>				
PS-1. Potential Release of LNG due to Operational Incident or Natural Phenomena	Less than significant	Greater	Similar	Greater
PS-2. Potential Release of LNG due to High Energy Marine Collision or Intentional Attack	Significant	Greater	Similar	Greater
PS-3. Potential Release of Unodorized Natural Gas due to Accidental Damage of Subsea Pipelines.	Significant	Greater	Similar	Greater
PS-4. Potential Release of Unodorized Natural Gas due to Accidental Damage of Pipelines	Significant	Greater	Similar	Greater
PS-5. Potential Odorant Release and Fire	Less than significant	Greater	Similar	Greater
PS-6. Potential Release of Natural Gas due to Operational Incident or Natural Phenomena	Significant	Greater	Similar	Greater
PS-7. In the vent of an accident, there is a greater likelihood of injury, fatality, and property damage due to fire and explosion in Areas with Less Robust Housing Construction.	Significant	Greater	Similar	Greater
PS-8. In the event of an accident, there is an Increased potential for injury or fatality near Center Road Pipeline Milepost 4.1 due to Community Activities Outdoors.	Significant	Greater	Similar	Greater

**Table 6.2-2 Comparison Matrix: Proposed Onshore Pipeline Project Components and Alternatives**

<b>Issue Area and Impacts</b>	<b>Impacts of Proposed Center Road Pipeline Route After Mitigation</b>	<b>Comparison of Alternative 1 Impacts to Proposed Center Road Pipeline Route</b>	<b>Comparison of Alternative 2 Impacts to Proposed Center Road Pipeline Route</b>	<b>Comparison of No Action Alternative to Proposed Center Road Pipeline Route</b>
<b>Marine Traffic</b>				
MT-1: Temporary Disruption of Maritime Traffic and Increased Collision Risks During Offshore Construction	N/A	N/A	N/A	N/A
MT-2: Temporary Increase in Maritime Traffic Congestion at Local Ports During Offshore Construction	N/A	N/A	N/A	N/A
MT-3: Temporary Interference with Operations in the Point Mugu Sea Range or the SOCAL Range Complex During Offshore Construction	N/A	N/A	N/A	N/A
MT-4: Temporary Disruption in Maritime Traffic and Increased Risk of Vessel Collisions Due to Activities at the HDD Exit Point and Pipe Laying	N/A	N/A	N/A	N/A
MT-5: Long-Term Interference with Operations in the Point Mugu Sea Range and the SOCAL Range Complex	N/A	N/A	N/A	N/A
MT-6: Long-Term Disruption in Maritime Traffic and Increased Risk of Vessel Collisions Due to FSRU Location	N/A	N/A	N/A	N/A
MT-7: Long-Term Disruption of Local Maritime Traffic and Increased Risk of Vessel Collisions	N/A	N/A	N/A	N/A
<b>Aesthetics</b>				
AES-1: Change in Nighttime Views Caused by Offshore Pipeline Construction	Less than significant	Similar	Similar	Less



**Table 6.2-2 Comparison Matrix: Proposed Onshore Pipeline Project Components and Alternatives**

<b>Issue Area and Impacts</b>	<b>Impacts of Proposed Center Road Pipeline Route After Mitigation</b>	<b>Comparison of Alternative 1 Impacts to Proposed Center Road Pipeline Route</b>	<b>Comparison of Alternative 2 Impacts to Proposed Center Road Pipeline Route</b>	<b>Comparison of No Action Alternative to Proposed Center Road Pipeline Route</b>
AES-2: The FSRU Will Alter Ocean Views from Onshore and Channel Islands Viewpoints	Less than significant	Similar	Similar	Less
AES-3: The FSRU May Alter the Anticipated Views for Recreational Boaters	Significant	Similar	Similar	Less
AES-4: Long-Term Change in Nighttime Views	Less than significant	Similar	Similar	Less
AES-5: Construction Equipment and Activities Would be Visible on City Image Corridors/Scenic Highways	Less than significant	Similar	Similar	Less
AES-6: Construction Equipment and Activities Would be Visible on Local Roads	Less than significant	Similar	Similar	Less
<b>Agriculture and Soils</b>				
AGR-1: Loss of Agricultural Land Construction activities could temporarily cause a loss of agricultural land, crops, or crop production.	Less than significant	Greater	Similar	Less
AGR-2: Topsoil Mixing and Compaction	Less than significant	Greater	Similar	Less
AGR-3: Dust Deposition	Less than significant	Similar	Similar	Less
AGR-4: Loss of Tree Rows	Less than significant	Similar	Similar	Less
<b>Air Quality</b>				
Air-1: Emissions of Regulated Pollutants Generated During Offshore Construction.	N/A	N/A	N/A	N/A
Air-2: Stationary Sources Emissions of Regulated Pollutants During Offshore Operations	N/A	N/A	N/A	N/A

**Table 6.2-2 Comparison Matrix: Proposed Onshore Pipeline Project Components and Alternatives**

<b>Issue Area and Impacts</b>	<b>Impacts of Proposed Center Road Pipeline Route After Mitigation</b>	<b>Comparison of Alternative 1 Impacts to Proposed Center Road Pipeline Route</b>	<b>Comparison of Alternative 2 Impacts to Proposed Center Road Pipeline Route</b>	<b>Comparison of No Action Alternative to Proposed Center Road Pipeline Route</b>
Air-3: Emissions of Ammonia During Offshore Operations	N/A	N/A	N/A	N/A
Air-4: Emissions from Mobile Sources During Offshore Operations	N/A	N/A	N/A	N/A
Air-5: Emissions Generated during Onshore Construction	Less than significant	Similar	Similar	Less
Air-6: Emissions from an Accident during Onshore Operations	Less than significant	Similar	Similar	Less
Air-7: Emissions Generated During Offshore and Onshore Construction and Operations That Are Not Addressed Under Permits	Less than significant	Similar	Similar	Less
<b>Biology, Marine</b>				
BioMar-1: Temporary or Permanent Alteration or Disturbance of EFH or Sensitive Habitats	N/A	N/A	N/A	N/A
BioMar-2: Disruption of Marine Biota Behavior	N/A	N/A	N/A	N/A
BioMar-3: Temporary Avoidance of the Area Due to HDD Release of Drilling Muds	N/A	N/A	N/A	N/A
BioMar-4: Burial of Sessile Marine Biota	N/A	N/A	N/A	N/A
BioMar-5: Mortality and Morbidity of Marine Biota from Spills	N/A	N/A	N/A	N/A
BioMar-6: Discharge of Bilge Water, Graywater, and Deck Runoff	N/A	N/A	N/A	N/A
BioMar-7: Discharge of Ballast Water	N/A	N/A	N/A	N/A

**Table 6.2-2 Comparison Matrix: Proposed Onshore Pipeline Project Components and Alternatives**

<b>Issue Area and Impacts</b>	<b>Impacts of Proposed Center Road Pipeline Route After Mitigation</b>	<b>Comparison of Alternative 1 Impacts to Proposed Center Road Pipeline Route</b>	<b>Comparison of Alternative 2 Impacts to Proposed Center Road Pipeline Route</b>	<b>Comparison of No Action Alternative to Proposed Center Road Pipeline Route</b>
BioMar-8: Increase/Decrease in Fish Abundance or Commercially Important Benthic Species	N/A	N/A	N/A	N/A
BioMar-9: Collision between Project Vessels and Marine Mammals or Sea Turtles	N/A	N/A	N/A	N/A
BioMar-10: Noise Disrupting Marine Mammal Behavior	N/A	N/A	N/A	N/A
BioMar-11: Entanglement of Marine Mammals or Sea Turtles	N/A	N/A	N/A	N/A
BioMar-12: Release of LNG, Natural Gas, Fuel, or Oil Causes Injury or Mortality of Marine Mammals.	N/A	N/A	N/A	N/A
BioMar-13: Lights and Debris from the FSRU Act as an Attractive Nuisance.	N/A	N/A	N/A	N/A
BioMar-14: Temporary or Permanent Alteration or Disturbance of Sensitive Marine Mammal, Sea Turtle, of Seabird habitats.	N/A	N/A	N/A	N/A
<b>Biology, Terrestrial</b>				
TerrBio-1: Temporary Increase in Sedimentation	Less than significant	Similar	Similar	Less
TerrBio-2: Temporary or Permanent Impacts Regarding Construction, Operation, and Maintenance Effects on Rare and Special Status Plants	Less than significant	Similar	Similar	Less
TerrBio-3: Temporary or Permanent Vegetation Loss Due to Removal/ Habitat Removal	Less than significant	Similar	Similar	Less

**Table 6.2-2 Comparison Matrix: Proposed Onshore Pipeline Project Components and Alternatives**

<b>Issue Area and Impacts</b>	<b>Impacts of Proposed Center Road Pipeline Route After Mitigation</b>	<b>Comparison of Alternative 1 Impacts to Proposed Center Road Pipeline Route</b>	<b>Comparison of Alternative 2 Impacts to Proposed Center Road Pipeline Route</b>	<b>Comparison of No Action Alternative to Proposed Center Road Pipeline Route</b>
TerrBio-4: Temporary or Permanent Changes to Wetlands or Waters of the United States During Construction	Less than significant	Similar	Similar	Less
TerrBio-5: Permanent Impact Caused by Noxious Weed Invasion	Less than significant	Similar	Similar	Less
TerrBio-6: Temporary Impacts on Wildlife Habitat Removal	Less than significant	Similar	Similar	Less
TerrBio-7: Direct Permanent Impact on Wildlife Mortality	Less than significant	Similar	Similar	Less
TerrBio-8: Temporary Wildlife Disturbance from Increased Human Presence	Less than significant	Similar	Similar	Less
TerrBio-9: Temporary or Permanent Construction Impacts on Sensitive Species and/or Habitats	Less than significant	Similar	Similar	Less
<b>Cultural</b>				
Cultural-1: Maritime Archaeological Sites and Artifacts	Less than significant	Greater	Similar	Less
Cultural-2: Native American Value	Less than significant	Greater	Similar	Less
Cultural-3: Terrestrial Historic or Archaeological Resources	Less than significant	Greater	Similar	Less
<b>Energy</b>				
ENE-1: Access to Mineral Resources	Less than significant	Similar	Similar	Less
<b>Geology</b>				
GEO-1: Increased Erosion, Differential Compaction, or Scour	Less than significant	Similar	Similar	Less
GEO-2: Disturbing or Destroying Paleontological Resources	Less than significant	Similar	Similar	Less

**Table 6.2-2 Comparison Matrix: Proposed Onshore Pipeline Project Components and Alternatives**

<b>Issue Area and Impacts</b>	<b>Impacts of Proposed Center Road Pipeline Route After Mitigation</b>	<b>Comparison of Alternative 1 Impacts to Proposed Center Road Pipeline Route</b>	<b>Comparison of Alternative 2 Impacts to Proposed Center Road Pipeline Route</b>	<b>Comparison of No Action Alternative to Proposed Center Road Pipeline Route</b>
GEO-3: Damage due to Direct Rupture along Fault Lines	Less than significant	Similar	Similar	Less
GEO-4: Damage to Pipelines and Associated Facilities from Surface Shaking	Less than significant	Similar	Similar	Less
GEO-5: Damage to Pipelines from Landslides, Liquefaction, Subsidence, Sand Migration, or Turbidity Currents	Less than significant	Similar	Similar	Less
GEO-6: Damage to Pipelines from Tsunami	Less than significant	Similar	Similar	Less
GEO-7: Damage to Pipelines from Shallow Gas Seeps	Less than significant	Similar	Similar	Less
GEO-8: Potential to Change the Transport of Sediment in Offshore Areas	Less than significant	Similar	Similar	Less
<b>HAZARDOUS MATERIALS</b>				
HAZMAT-1: Potential Hazardous Materials Spills due to Offshore Construction	N/A	N/A	N/A	N/A
HAZMAT-2: Potential Hazardous Materials Spills due to Offshore Operations	N/A	N/A	N/A	N/A
HAZMAT-3: Release of Existing Contaminants from Sediments, Soils, or Groundwater	Less than significant	Greater	Similar	Less
HAZMAT-4: Release of Methane or Other Flammable or Toxic Gases from Nearby Landfills	Less than significant	Similar	Similar	Less
HAZMAT-5: Potential Hazardous Materials Spills Due to Onshore Construction or Transportation	Less than significant	Similar	Similar	Less
HAZMAT-6: Accidental Release of Drilling Muds during HDD	Less than significant	Similar	Similar	Less

**Table 6.2-2 Comparison Matrix: Proposed Onshore Pipeline Project Components and Alternatives**

<b>Issue Area and Impacts</b>	<b>Impacts of Proposed Center Road Pipeline Route After Mitigation</b>	<b>Comparison of Alternative 1 Impacts to Proposed Center Road Pipeline Route</b>	<b>Comparison of Alternative 2 Impacts to Proposed Center Road Pipeline Route</b>	<b>Comparison of No Action Alternative to Proposed Center Road Pipeline Route</b>
HAZMAT-7: Potential Hazardous Materials Spills Due to Onshore Operations	Less than significant	Similar	Similar	Less
HAZMAT-8: Potential Disturbance or Detonation of Unexploded Ordnance (UXO) Due to Onshore or Offshore Construction	Less than significant	Similar	Similar	Less
<b>Land Use</b>				
LU-1: Changes in Land Use	Less than significant	Similar	Similar	Less
LU-2: Nuisances to Residents and Businesses	Less than significant	Greater	Greater	Less
<b>Noise</b>				
NOI-1: Noise Generated During the Installation of the Floating Storage and Regasification Unit (FSRU) and Offshore Pipeline	N/A	N/A	N/A	N/A
NOI-2: Long-Term Noise Generated During FSRU Operations	N/A	N/A	N/A	N/A
NOI-3: Temporary Noise Generated by Support Vessels During Offshore Operations	N/A	N/A	N/A	N/A
NOI-4: Temporary Noise Generated during Horizontal Directional Drilling (HDD)	Less than significant	Similar	Less	Less
NOI-5: Noise Generated during Construction of the Onshore Pipeline	Less than significant	Similar	Less	Less
NOI-6: Noise Generated by Traveling to the Construction Site	Less than significant	Similar	Less	Less
NOI-7: Noise Generated during Operations Onshore	Less than significant	Similar	Less	Less
<b>Recreation</b>				

**Table 6.2-2 Comparison Matrix: Proposed Onshore Pipeline Project Components and Alternatives**

<b>Issue Area and Impacts</b>	<b>Impacts of Proposed Center Road Pipeline Route After Mitigation</b>	<b>Comparison of Alternative 1 Impacts to Proposed Center Road Pipeline Route</b>	<b>Comparison of Alternative 2 Impacts to Proposed Center Road Pipeline Route</b>	<b>Comparison of No Action Alternative to Proposed Center Road Pipeline Route</b>
REC-1: Temporary Restrictions on Offshore Recreational Fishing during Construction	N/A	N/A	N/A	N/A
REC-2: Restricted Recreational Fishing Due to Safety/Security Zone	N/A	N/A	N/A	N/A
REC-3: Alteration of the Offshore Recreational Experience During Operations	N/A	N/A	N/A	N/A
REC-4: Temporary Restriction and Deterrence of Recreational Activities at Ormond Beach during Construction	Less than significant	Similar	Similar	Less
REC-5: Temporary Deterrence of Park Use due to Traffic Congestion	Less than significant	Similar	Similar	Less
REC-6: Temporary Closure of Recreation Trails	Less than significant	Similar	Similar	Less
<b>Socioeconomics</b>				
Socio-1: Small Increased Demand for Public Services	Less than significant	Similar	Similar	Less
Socio-2: Increased Demand for Housing	Less than significant	Similar	Similar	Less
Socio-3: Temporary Disruption of Onshore Commercial and Tourist Activities	Less than significant	Similar	Similar	Less
Socio-4: Temporary Disruption of Local Businesses during Onshore Pipeline Construction	Less than significant	Similar	Similar	Less
Socio-5: Increase in Tax Revenue from Construction	Beneficial	Similar	Similar	Less

**Table 6.2-2 Comparison Matrix: Proposed Onshore Pipeline Project Components and Alternatives**

<b>Issue Area and Impacts</b>	<b>Impacts of Proposed Center Road Pipeline Route After Mitigation</b>	<b>Comparison of Alternative 1 Impacts to Proposed Center Road Pipeline Route</b>	<b>Comparison of Alternative 2 Impacts to Proposed Center Road Pipeline Route</b>	<b>Comparison of No Action Alternative to Proposed Center Road Pipeline Route</b>
Socio-6: Increase in Tax Revenue during Operations Operations would result in a beneficial impact on local tax revenue (Class IV).	Beneficial	Similar	Similar	Less
Socio-7: Decrease in Catch Revenues for Commercial Fisheries	N/A	N/A	N/A	N/A
Socio-8: Increase in Regional Fishing Pressure	N/A	N/A	N/A	N/A
Socio-9: Decreased Commercial Fisheries Revenues	N/A	N/A	N/A	N/A
<b>Transportation (Onshore)</b>				
Trans-1: Temporary Traffic Lane Closures	Less than significant	Similar	Similar	Less
Trans-2: Temporary Reduced On-Street Parking Access	Less than significant	Similar	Similar	Less
Trans-3: Temporary Closure of Bike Routes	Less than significant	Similar	Similar	Less
Trans-4: Temporary Delays for Transit and Railway Routes	Less than significant	Greater	Less	Less
Trans-5: Temporary Increase in Traffic	Less than significant	Similar	Similar	Less
Trans-6: Temporary Increase in Traffic at Level of Service E Intersection	Less than significant	Similar	Similar	Less
Trans-7: Damage to Roads During Construction	Less than significant	Similar	Similar	Less
Trans-8: Operations-Related Traffic	Less than significant	Similar	Similar	Less



**Table 6.2-2 Comparison Matrix: Proposed Onshore Pipeline Project Components and Alternatives**

<b>Issue Area and Impacts</b>	<b>Impacts of Proposed Center Road Pipeline Route After Mitigation</b>	<b>Comparison of Alternative 1 Impacts to Proposed Center Road Pipeline Route</b>	<b>Comparison of Alternative 2 Impacts to Proposed Center Road Pipeline Route</b>	<b>Comparison of No Action Alternative to Proposed Center Road Pipeline Route</b>
<b>WATER QUALITY AND SEDIMENTS</b>				
WAT-1: Temporary Degradation of Offshore Water Quality due to Normal Vessel Discharges	N/A	N/A	N/A	N/A
WAT-2: Temporary Degradation of Offshore Water Quality due to Accidental Discharges	N/A	N/A	N/A	N/A
WAT-3: Temporary Degradation of Water Quality due to Hydrostatic Test Water Releases from Offshore Equipment Testing	N/A	N/A	N/A	N/A
WAT-4: Short-Term Increase in Turbidity or Accidental Unearthing of Contaminants during Offshore Construction	N/A	N/A	N/A	N/A
WAT-5: Short-term Degradation of Surface Water Quality due to the Release of Contaminants in Hydrostatic Test Water (Onshore)	Less than significant	Similar	Similar	Less
WAT-6: Short-Term Degradation of Surface Water Quality due to the Release of Contaminants in Hydrostatic Test Water from Testing of Onshore Pipelines	Less than significant	Similar	Similar	Less
WAT-7: Short-Term Increase in Erosion due to Construction Activities	Less than significant	Similar	Similar	Less
WAT-8: Degradation of Water Quality due to Normal Release of Treated Discharges During Offshore Operations	N/A	N/A	N/A	N/A

**Table 6.2-2 Comparison Matrix: Proposed Onshore Pipeline Project Components and Alternatives**

<b>Issue Area and Impacts</b>	<b>Impacts of Proposed Center Road Pipeline Route After Mitigation</b>	<b>Comparison of Alternative 1 Impacts to Proposed Center Road Pipeline Route</b>	<b>Comparison of Alternative 2 Impacts to Proposed Center Road Pipeline Route</b>	<b>Comparison of No Action Alternative to Proposed Center Road Pipeline Route</b>
WAT-9: Degradation of Water Quality due to Accidental Release of Untreated Graywater, Deck Drainage, and other Regulated Discharges that do Not Meet Water Quality Standards	Less than significant	Similar	Similar	Less
WAT-10: Temporary Degradation of Surface Water Quality During Maintenance Activities	Less than significant	Similar	Similar	Less
WAT-11: Short-Term Degradation of Surface Water Quality due to Erosion caused by Regular Maintenance Activities	Less than significant	Similar	Similar	Less
<b>ENVIRONMENTAL JUSTICE</b>				
EJ-1: Disproportionate Impact to Minority and Low-Income Community of a Pipeline Accident	Less than significant	Similar	Similar	Less

1

**Table 6.2-3 Comparison Matrix: Proposed Shore Crossing Components and Alternatives**

Issue Area and Impacts	Impacts of the Proposed Project (Ormond Beach Shore Crossing) After Mitigation	Comparison of Arnold Road Shore Crossing Alternative to Proposed Project	Comparison of Point Mugu Shore Crossing Alternative to Proposed Project	Comparison of No Action Alternative to Proposed Project
<b>Safety</b>				
PS-1. Potential Release of LNG due to Operational Incident or Natural Phenomena	Less than significant	Similar	Similar	Less
PS-2. Potential Release of LNG due to High Energy Marine Collision or Intentional Attack	Significant	Similar	Similar	Less
PS-3. Potential Release of Unodorized Natural Gas due to Accidental Damage of Subsea Pipelines.	Significant	Similar	Similar	Less
PS-4. Potential Release of Unodorized Natural Gas due to Accidental Damage of Pipelines	Significant	Similar	Similar	Less
PS-5. Potential Odorant Release and Fire	Less than significant	Similar	Similar	Less
PS-6. Potential Release of Natural Gas due to Operational Incident or Natural Phenomena	Significant	Similar	Similar	Less
PS-7. Greater likelihood of injury, fatality, and property damage due to fire and explosion in Areas with Less Robust Housing Construction	Significant	Similar	Similar	Less
PS-8. Increased potential for injury or fatality near Center Road Pipeline Milepost 4.1 due to Community Activities Outdoors.	Significant	Similar	Similar	Less
<b>Marine Traffic</b>				
MT-1: Temporary Disruption of Maritime Traffic and Increased Collision Risks During Offshore Construction	Less than significant	Similar	Similar	Less

**Table 6.2-3 Comparison Matrix: Proposed Shore Crossing Components and Alternatives**

<b>Issue Area and Impacts</b>	<b>Impacts of the Proposed Project (Ormond Beach Shore Crossing) After Mitigation</b>	<b>Comparison of Arnold Road Shore Crossing Alternative to Proposed Project</b>	<b>Comparison of Point Mugu Shore Crossing Alternative to Proposed Project</b>	<b>Comparison of No Action Alternative to Proposed Project</b>
MT-2: Temporary Increase in Maritime Traffic Congestion at Local Ports During Offshore Construction	Less than significant	Similar	Similar	Less
MT-3: Temporary Interference with Operations in the Point Mugu Sea Range or the SOCAL Range Complex During Offshore Construction	Less than significant	Similar	Similar	Less
MT-4: Temporary Disruption in Maritime Traffic and Increased Risk of Vessel Collisions Due to Activities at the HDD Exit Point and Pipe Laying	Less than significant	Similar	Similar	Less
MT-5: Long-Term Interference with Operations in the Point Mugu Sea Range and the SOCAL Range Complex	Less than significant	Similar	Similar	Less
MT-6: Long-Term Disruption in Maritime Traffic and Increased Risk of Vessel Collisions Due to FSRU Location	Less than significant	Similar	Similar	Less
MT-7: Long-Term Disruption of Local Maritime Traffic and Increased Risk of Vessel Collisions	Less than significant	Similar	Similar	Less
<b>Aesthetics</b>				
AES-1: Change in Nighttime Views Caused by Offshore Pipeline Construction	N/A	N/A	N/A	N/A
AES-2: The FSRU Will Alter Ocean Views from Onshore and Channel Islands Viewpoints	N/A	N/A	N/A	N/A
AES-3: The FSRU May Alter the Anticipated Views for Recreational Boaters	N/A	N/A	N/A	N/A

**Table 6.2-3 Comparison Matrix: Proposed Shore Crossing Components and Alternatives**

<b>Issue Area and Impacts</b>	<b>Impacts of the Proposed Project (Ormond Beach Shore Crossing) After Mitigation</b>	<b>Comparison of Arnold Road Shore Crossing Alternative to Proposed Project</b>	<b>Comparison of Point Mugu Shore Crossing Alternative to Proposed Project</b>	<b>Comparison of No Action Alternative to Proposed Project</b>
AES-4: Long-Term Change in Nighttime Views	N/A	N/A	N/A	N/A
AES-5: Construction Equipment and Activities Would be Visible on City Image Corridors/Scenic Highways	Less than significant	Similar	Similar	Less
AES-6: Construction Equipment and Activities Would be Visible on Local Roads	Less than significant	Similar	Similar	Less
<b>Agriculture and Soils</b>				
AGR-1: Loss of Agricultural Land	Less than significant	Similar	Similar	Less
AGR-2: Topsoil Mixing and Compaction	Less than significant	Similar	Similar	Less
AGR-3: Dust Deposition	Less than significant	Similar	Similar	Less
AGR-4: Loss of Tree Rows	Less than significant	Similar	Similar	Less
<b>Air Quality</b>				
Air-1: Emissions of Regulated Pollutants Generated During Offshore Construction	N/A	N/A	N/A	N/A
Air-2: Stationary Sources Emissions of Regulated Pollutants During Offshore Operations	N/A	N/A	N/A	N/A
Air-3: Emissions of Ammonia During Offshore Operations	N/A	N/A	N/A	N/A
Air-4: Emissions from Mobile Sources During Offshore Operations	N/A	N/A	N/A	N/A
Air-5: Emissions Generated during Onshore Construction	Less than significant	Similar	Similar	
Air-6: Emissions from an Accident during Onshore Operations	Less than significant	Similar	Similar	Less

**Table 6.2-3 Comparison Matrix: Proposed Shore Crossing Components and Alternatives**

Issue Area and Impacts	Impacts of the Proposed Project (Ormond Beach Shore Crossing) After Mitigation	Comparison of Arnold Road Shore Crossing Alternative to Proposed Project	Comparison of Point Mugu Shore Crossing Alternative to Proposed Project	Comparison of No Action Alternative to Proposed Project
Air-7: Emissions Generated during Offshore and Onshore Construction and Operations That Are Not Addressed Under Permits	Less than significant	Similar	Less	Less
<b>Biology, Marine</b>				
BioMar-1: Temporary or Permanent Alteration or Disturbance of EFH or Sensitive Habitats	Less than significant	Similar	Similar	Less
BioMar-2: Disruption of Marine Biota Behavior	N/A	N/A	N/A	N/A
BioMar-3: Temporary Avoidance of the Area Due to HDD Release of Drilling Muds	N/A	N/A	N/A	N/A
BioMar-4: Burial of Sessile Marine Biota	N/A	N/A	N/A	N/A
BioMar-5: Mortality and Morbidity of Marine Biota from Spills	N/A	N/A	N/A	N/A
BioMar-6: Discharge of Bilge Water, Graywater, and Deck Runoff	N/A	N/A	N/A	N/A
BioMar-7: Discharge of Ballast Water A release of ballast water containing exotic species could introduce exotic species that directly compete with native organisms, affecting the viability of native species (Class III).	N/A	N/A	N/A	N/A
BioMar-8: Increase/Decrease in Fish Abundance or Commercially Important Benthic Species	N/A	N/A	N/A	N/A
BioMar-9: Collision between Project Vessels and Marine Mammals or Sea Turtles	N/A	N/A	N/A	N/A

**Table 6.2-3 Comparison Matrix: Proposed Shore Crossing Components and Alternatives**

<b>Issue Area and Impacts</b>	<b>Impacts of the Proposed Project (Ormond Beach Shore Crossing) After Mitigation</b>	<b>Comparison of Arnold Road Shore Crossing Alternative to Proposed Project</b>	<b>Comparison of Point Mugu Shore Crossing Alternative to Proposed Project</b>	<b>Comparison of No Action Alternative to Proposed Project</b>
BioMar-10: Noise Disrupting Marine Mammal Behavior	N/A	N/A	N/A	N/A
BioMar-11: Entanglement of Marine Mammals or Sea Turtles	N/A	N/A	N/A	N/A
BioMar-12: Release of LNG, Natural Gas, Fuel, or Oil Causes Injury or Mortality of Marine Mammals.	N/A	N/A	N/A	N/A
BioMar-13: Lights and Debris from the FSRU Act as an Attractive Nuisance.	Less than significant	Similar	Similar	Less
BioMar-14: Temporary or Permanent Alteration or Disturbance of Sensitive Marine Mammal, Sea Turtle, or Seabird Habitats	Less than significant	Similar	Similar	Less
<b>Biology, Terrestrial</b>				
TerrBio-1: Temporary Increase in Sedimentation	Less than significant	Similar	Similar	Less
TerrBio-2: Temporary or Permanent Impacts Regarding Construction, Operation, and Maintenance Effects on Rare and Special Status Plants	Less than significant	Similar	Similar	Less
TerrBio-3: Temporary or Permanent Vegetation Loss Due to Removal/ Habitat Removal	Less than significant	Similar	Similar	Less
TerrBio-4: Temporary or Permanent Changes to Wetlands or Waters of the United States During Construction	Less than significant	Similar	Similar	Less
TerrBio-5: Permanent Impact Caused by Noxious Weed Invasion	Less than significant	Similar	Similar	Less
TerrBio-6: Temporary Impacts on Wildlife Habitat Removal	Less than significant	Similar	Similar	Less

**Table 6.2-3 Comparison Matrix: Proposed Shore Crossing Components and Alternatives**

<b>Issue Area and Impacts</b>	<b>Impacts of the Proposed Project (Ormond Beach Shore Crossing) After Mitigation</b>	<b>Comparison of Arnold Road Shore Crossing Alternative to Proposed Project</b>	<b>Comparison of Point Mugu Shore Crossing Alternative to Proposed Project</b>	<b>Comparison of No Action Alternative to Proposed Project</b>
TerrBio-7: Direct Permanent Impact on Wildlife Mortality	Less than significant	Similar	Similar	Less
TerrBio-8: Temporary Wildlife Disturbance from Increased Human Presence	Less than significant	Similar	Similar	Less
TerrBio-9: Temporary or Permanent Construction Impacts on Sensitive Species and/or Habitats	Less than significant	Similar	Similar	Less
<b>Cultural</b>				
Cultural-1: Maritime Archaeological Sites and Artifacts	Less than significant	Similar	Similar	Less
Cultural-2: Native American Values	Less than significant	Similar	Similar	Less
Cultural-3: Terrestrial Historic or Archaeological Resources	Less than significant	Similar	Similar	Less
<b>Energy</b>				
ENE-1: Access to Mineral Resources	Less than significant	Similar	Similar	Less
<b>Geology</b>				
GEO-1: Increased Erosion, Differential Compaction, or Scour	Less than significant	Similar	Similar	Less
GEO-2: Disturbing or Destroying Paleontological Resources	Less than significant	Similar	Similar	Less
GEO-3: Damage due to Direct Rupture along Fault Lines	Less than significant	Similar	Similar	Less
GEO-4: Damage to Pipelines and Associated Facilities from Surface Shaking	Less than significant	Similar	Similar	Less
GEO-5: Damage to Pipelines from Landslides, Liquefaction, Subsidence, Sand Migration, or Turbidity Currents	Less than significant	Similar	Similar	Less



**Table 6.2-3 Comparison Matrix: Proposed Shore Crossing Components and Alternatives**

Issue Area and Impacts	Impacts of the Proposed Project (Ormond Beach Shore Crossing) After Mitigation	Comparison of Arnold Road Shore Crossing Alternative to Proposed Project	Comparison of Point Mugu Shore Crossing Alternative to Proposed Project	Comparison of No Action Alternative to Proposed Project
GEO-6: Damage to Pipelines from Tsunami	Less than significant	Similar	Similar	Less
GEO-7: Damage to Pipelines from Shallow Gas Seeps	Less than significant	Similar	Similar	Less
GEO-8: Potential to Change the Transport of Sediment in Offshore Areas	Less than significant	Similar	Similar	Less
<b>HAZARDOUS MATERIALS</b>				
HAZMAT-1: Potential Hazardous Materials Spills due to Offshore Construction	N/A	N/A	N/A	N/A
HAZMAT-2: Potential Hazardous Materials Spills due to Offshore Operations	N/A	N/A	N/A	N/A
HAZMAT-3: Release of Existing Contaminants from Sediments, Soils, or Groundwater	Less than significant	Greater	Similar	Less
HAZMAT-4: Release of Methane or Other Flammable or Toxic Gases from Nearby Landfills	Less than significant	Similar	Similar	Less
HAZMAT-5: Potential Hazardous Materials Spills Due to Onshore Construction or Transportation	Less than significant	Similar	Similar	Less
HAZMAT-6: Accidental Release of Drilling Muds during HDD	Less than significant	Similar	Similar	Less
HAZMAT-7: Potential Hazardous Materials Spills Due to Onshore Operations	Less than significant	Similar	Similar	Less
HAZMAT-8: Potential Disturbance or Detonation of Unexploded Ordnance (UXO) Due to Onshore or Offshore Construction	Less than significant	Similar	Similar	Less
<b>Land Use</b>				

**Table 6.2-3 Comparison Matrix: Proposed Shore Crossing Components and Alternatives**

<b>Issue Area and Impacts</b>	<b>Impacts of the Proposed Project (Ormond Beach Shore Crossing) After Mitigation</b>	<b>Comparison of Arnold Road Shore Crossing Alternative to Proposed Project</b>	<b>Comparison of Point Mugu Shore Crossing Alternative to Proposed Project</b>	<b>Comparison of No Action Alternative to Proposed Project</b>
LU-1: Changes in Land Use	Less than significant	Similar	Similar	Less
LU-2: Nuisances to Residents and Businesses	Less than significant	Similar	Similar	Less
<b>Noise</b>				
NOI-1: Noise Generated During the Installation of the Floating Storage and Regasification Unit (FSRU) and Offshore Pipeline	N/A	N/A	N/A	N/A
NOI-2: Long-Term Noise Generated During FSRU Operations	N/A	N/A	N/A	N/A
NOI-3: Temporary Noise Generated by Support Vessels During Offshore Operations	N/A	N/A	N/A	N/A
NOI-4: Temporary Noise Generated during Horizontal Directional Drilling (HDD)	Less than significant	Similar	Similar	Less
NOI-5: Noise Generated during Construction of the Onshore Pipeline	Less than significant	Similar	Similar	Less
NOI-6: Noise Generated by Traveling to the Construction Site	Less than significant	Similar	Similar	Less
NOI-7: Noise Generated during Operations Onshore	Less than significant	Similar	Similar	Less
<b>Recreation</b>				
REC-1: Temporary Restrictions on Offshore Recreational Fishing During Construction	N/A	N/A	N/A	N/A
REC-2: Restricted Recreational Fishing Due to Safety/Security Zone	N/A	N/A	N/A	N/A

**Table 6.2-3 Comparison Matrix: Proposed Shore Crossing Components and Alternatives**

<b>Issue Area and Impacts</b>	<b>Impacts of the Proposed Project (Ormond Beach Shore Crossing) After Mitigation</b>	<b>Comparison of Arnold Road Shore Crossing Alternative to Proposed Project</b>	<b>Comparison of Point Mugu Shore Crossing Alternative to Proposed Project</b>	<b>Comparison of No Action Alternative to Proposed Project</b>
REC-3: Alteration of the Offshore Recreational Experience During Operations	N/A	N/A	N/A	N/A
REC-4: Temporary Restriction and Deterrence of Recreational Activities at Ormond Beach during Construction	Less than significant	Similar	Less	Less
REC-5: Temporary Deterrence of Park Use due to Traffic Congestion	Less than significant	Similar	Less	Less
REC-6: Temporary Closure of Recreation Trails	Less than significant	Similar	Less	Less
<b>Socioeconomics</b>				
Socio-1: Small Increased Demand for Public Services	Less than significant	Similar	Similar	Less
Socio-2: Increased Demand for Housing	Less than significant	Similar	Similar	Less
Socio-3: Temporary Disruption of Onshore Commercial and Tourist Activities	Less than significant	Similar	Similar	Less
Socio-4: Temporary Disruption of Local Businesses during Onshore Pipeline Construction	Less than significant	Similar	Similar	Less
Socio-5: Increase in Tax Revenue from Construction	Beneficial	Similar	Similar	Less
Socio-6: Increase in Tax Revenue during Operations	Beneficial	Similar	Similar	Less
Socio-7: Decrease in Catch Revenues for Commercial Fisheries	N/A	N/A	N/A	N/A
Socio-8: Increase in Regional Fishing Pressure	N/A	N/A	N/A	N/A
Socio-9: Decreased Commercial Fisheries Revenues	N/A	N/A	N/A	N/A

**Table 6.2-3 Comparison Matrix: Proposed Shore Crossing Components and Alternatives**

Issue Area and Impacts	Impacts of the Proposed Project (Ormond Beach Shore Crossing) After Mitigation	Comparison of Arnold Road Shore Crossing Alternative to Proposed Project	Comparison of Point Mugu Shore Crossing Alternative to Proposed Project	Comparison of No Action Alternative to Proposed Project
<b>Transportation (Onshore)</b>				
Trans-1: Temporary Traffic Lane Closures	Less than significant	Less	Less	Less
Trans-2: Temporary Reduced On-Street Parking Access	Less than significant	Less	Less	Less
Trans-3: Temporary Closure of Bike Routes	Less than significant	Less	Less	Less
Trans-4: Temporary Delays for Transit and Railway Routes	Less than significant	Similar	Less	Less
Trans-5: Temporary Increase in Traffic	Less than significant	Similar	Less	Less
Trans-6: Temporary Increase in Traffic at Level of Service E Intersection	Less than significant	Less	Less	Less
Trans-7: Damage to Roads During Construction	Less than significant	Less	Less	Less
Trans-8: Operations-Related Traffic	Less than significant	Similar	Less	Less
<b>WATER QUALITY AND SEDIMENTS</b>				
WAT-1: Temporary Degradation of Offshore Water Quality due to Normal Vessel Discharges	N/A	N/A	N/A	N/A
WAT-2: Temporary Degradation of Offshore Water Quality due to Accidental Discharges Accidental discharges of untreated	N/A	N/A	N/A	N/A
WAT-3: Temporary Degradation of Water Quality due to Hydrostatic Test Water Releases from Offshore Equipment Testing	N/A	N/A	N/A	N/A
WAT-4: Short-Term Increase in Turbidity or Accidental Unearthing of Contaminants during Offshore Construction	N/A	N/A	N/A	N/A

**Table 6.2-3 Comparison Matrix: Proposed Shore Crossing Components and Alternatives**

<b>Issue Area and Impacts</b>	<b>Impacts of the Proposed Project (Ormond Beach Shore Crossing) After Mitigation</b>	<b>Comparison of Arnold Road Shore Crossing Alternative to Proposed Project</b>	<b>Comparison of Point Mugu Shore Crossing Alternative to Proposed Project</b>	<b>Comparison of No Action Alternative to Proposed Project</b>
WAT-5: Short-term Degradation of Surface Water Quality due to the Release of Contaminants in Hydrostatic Test Water (Onshore)	Less than significant	Similar	Similar	Less
WAT-6: Short-Term Degradation of Surface Water Quality due to the Release of Contaminants in Hydrostatic Test Water from Testing of Onshore Pipelines	Less than significant	Similar	Similar	Less
WAT-7: Short-Term Increase in Erosion due to Construction Activities	Less than significant	Similar	Similar	Less
WAT-8: Degradation of Water Quality due to Normal Release of Treated Discharges During Offshore Operations	N/A	N/A	N/A	N/A
WAT-9: Degradation of Water Quality due to Accidental Release of Untreated Graywater, Deck Drainage, and other Regulated Discharges that do Not Meet Water Quality Standards	Less than significant	Similar	Similar	Less
WAT-10: Temporary Degradation of Surface Water Quality During Maintenance Activities	Less than significant	Similar	Similar	Less
WAT-11: Short-Term Degradation of Surface Water Quality due to Erosion caused by Regular Maintenance Activities	Less than significant	Similar	Similar	Less
<b>ENVIRONMENTAL JUSTICE</b>				
EJ-1: Disproportionate Impact to Minority and Low-Income Community of a Pipeline Accident	Less than significant	Similar	Similar	Less

***THIS PAGE INTENTIONALLY LEFT BLANK***